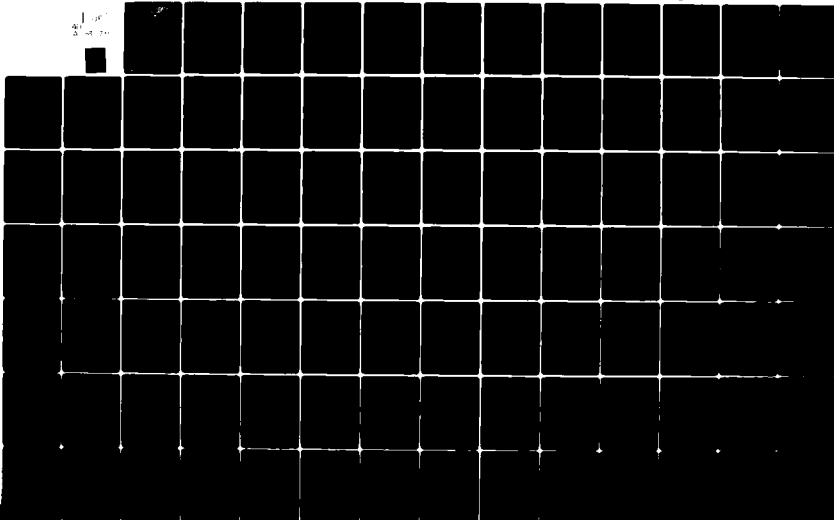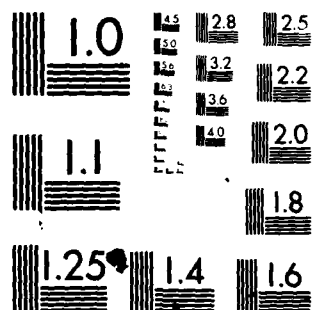AD-A093 178   AIR FORCE INST OF TECH WRIGHT-PATTERSON AFB OH SCHOOL--ETC   F/G 5/9
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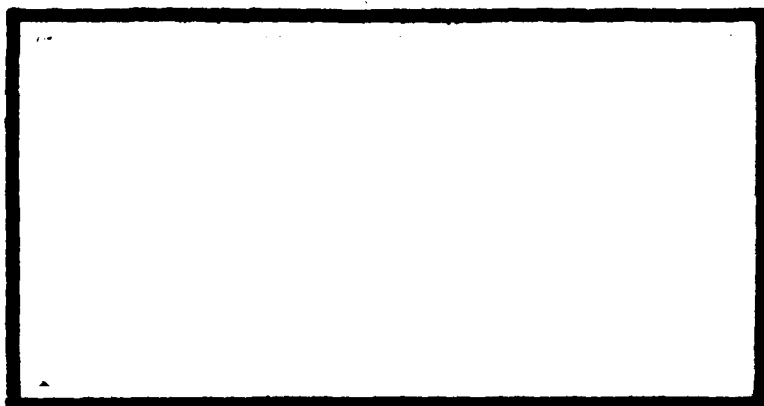UNCLASSIFIED   AFIT/LSSR-73-80   NL

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MULTIVARIATE MODELLING OF
THE CAREER INTENT
OF AIR FORCE PERSONNEL.

Roger A. Young, Captain, USAF

LSSR-73-80

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The research goals were to examine the power of three behavioral choice models in predicting the career intent of four categories of Air Force personnel and determine outcomes significantly influential in the career intent decision. The categories, drawn from an Air Force wide survey sample of 5425 personnel in grades E1 to O6, included pilots/navigators, selected enlisted AFSCs, all enlisted, and all officers. Tested initially, Vroom's 1964 valence model operationalized the attractiveness of an Air Force and civilian career. Two additional models tested were adapted from the 1967 and 1969 works of Fishbein and Graen and 1979 work of Mobley. They extended Vroom's model through the addition of terms operationalizing the influence of 'significant others' and job satisfaction. All three models exhibited significant predictive power. No one model overall was superior for predicting the career intent of Air Force personnel. The three most influential outcomes overall were 'effective use of abilities and training', 'a favorable attitude on the part of the spouse/family regarding an Air Force career', and 'an interesting and challenging job'. For pilots/navigators, the most influential outcome was 'effective use of abilities and training'. 'High salary' was the most influential outcome for selected enlisted AFSCs.

MULTIVARIATE MODELLING OF THE CAREER

INTENT OF AIR FORCE PERSONNEL

A Thesis

Presented to the Faculty of the School of Systems and Logistics

of the Air Force Institute of Technology

Air University

In Partial Fulfillment of the Requirements for the

Degree of Master of Science in Systems Management

By

Roger A. Young
Captain, USAF

September 1980

This thesis, written by

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and approved in an oral examination, has been accepted by the undersigned on behalf of the faculty of the School of Systems and Logistics in partial fulfillment of the require- ments for the degree of

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Acknowledgements

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MULTIVARIATE MODELLING OF THE CAREER
INTENT OF AIR FORCE PERSONNEL

I. Introduction

Background

As the Air Force moves into the 1980s, personnel retention has become a dominant issue. According to Joseph C. Zengerle, Assistant Secretary of the Air Force for Manpower, Reserve Affairs, and Installations, in recent testimony before a House subcommittee, "the highest priority for the Air Force in the 1980s is stopping the high number of careerists and rated officers from leaving the force (Craver, 1980b:1)."

The retention problem has to now been most visible and severe among rated officers. It has been estimated that by the end of Fiscal Year 1980, if the present trend continues, the Air Force will be short 400 navigators and 2100 pilots. Forecasts based on current retention rates indicate the Air Force will lose 75 out of every 100 pilots by their eleventh year of service (Craver, 1980).

Other areas experiencing significant officer manpower losses include the scientific, engineering, and medical career fields. Several enlisted Air Force Specialty Codes

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have also been experiencing increasing second term reenlist-
ment losses. The areas of concern are maintenance, air
traffic controllers, intelligence analysts, and voice pro-
cessing specialists.

The Air Force was short 232 physicians and 1200 engi-
neers in 1979 with no brighter prospects for 1980. The loss
rate for engineers up to eleven years in service is currently
about 66 percent. Speaking at the Air Force Institute of
Technology's 69th Anniversary Symposium, General Alton D.
Slay, Commander of Air Force Systems Command (AFSC), said the
following about manpower:

> At the moment we have a considerable deficit in
> manning the scientific and engineering fields in the
> Air Force. And in my opinion it's going to get worse
> before it gets better. Even though we've scrubbed our
> engineer requirements to the bone, our overall manning
> currently stands at about 88% total S & T's and we're
> down around 86% manned in engineers (Tabbert, 1979:1).

In the critical enlisted areas, second term reenlist-
ments have gone from 69 percent in FY 1975 to 61 percent in
FY 1979 (Griffiths, 1979). One Air Force response to the
problem has been to develop a selective continuation program
in which hundreds of E-5's and above in shortage areas have
been asked to stay on active duty for up to two years beyond
the point where they normally would have had to retire
(Callander, 1980).

The Air Force is actively involved in studying the
retention problem. Special retention sections have been
formed at the Air Force Military Personnel Center (AFMPC) at

Randolph Air Force Base to study the officer and enlisted retention problems. The third United States Air Force Quality of Air Force Life Active Duty Personnel Survey was distributed in February of this year. Data from this and previous surveys have been and will be analyzed to determine factors important to Air Force personnel in their career decisions.

Statement of the Problem

The Air Force is currently experiencing serious difficulties in retaining highly qualified young officers and enlisted personnel in several critical career fields. This problem is compounded by the Air Force's failure in 1979 to meet recruiting goals for the first time since the introduction of the All Volunteer Force (Griffiths, 1979). General Lew Allen, Jr., Air Force Chief of Staff, expounded on the seriousness of the situation in a recent appearance before the House Armed Services Committee:

> In the history of the U.S. Air Force our manpower situation has never been more critical than it is today, nor have there been forecasts of difficulties more serious than those we face as we enter the decade of the 1980s (Craver, 1980:3).

Stated in more definitive terms, the problem that this research addresses is: What is the determination and interpretation of an individual's intent to either remain in or leave the Air Force? The specific approach taken is to statistically test the power of three separate models of

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choice behavior and determine outcomes that strongly influence the career choice decision.

Prior Research

There have been many substantial research efforts in the 1970s that have taken in-depth looks at turnover, career intent and job satisfaction in the military: Alley and Gould, 1975; Ferris and Peters, 1976; Foley, 1976; Hoiberg, Hysham, and Berry, 1977; Lassiter and Proctor, 1976; Lewis, 1978; Mosbach and Scanlan, 1979; Parker, 1974; Patterson, 1977; Shenk and Wilbourn, 1971; Thompson, 1975; and Vrooman, 1976.

The work of Lewis (1978) and Mosbach and Scanlan (1979) was in large part directed towards testing multivariate models of the career decision process and determining important career outcomes. They conducted extensive literature reviews, developed surveys, and used the Statistical Package for the Social Sciences (SPSS) (Nie, Hull, Jenkins, Steinbrenner and Bent, 1975) as the basis for their data analysis.

After testing Vroom's (1964) expectancy theory model, Lewis concluded that Proposition 1 (the valence equation) of the model was quite powerful in predicting the career intent of junior officers in the 26XX and 28XX career fields (sample size: 617). However, he found no support for Proposition 2 (the force equation), concluding that the expectancy term was psychometrically invalid.

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Mosbach and Scanlan also tested Vroom's expectancy theory model as a predictor of the career intent of all company grade Air Force Systems Command officers (sample size: 2200). In addition, they tested expanded models that included variables that were adapted from models proposed by Fishbein (1967), Graen (1969), Mobley (1977), and Mobley, Griffith, Hand, and Meglino (1979). Their results from testing Vroom's model were supportive of Proposition 1 and nonsupportive of Proposition 2. The conclusion regarding the nonutility of Proposition 2 was substantiated by the results of three separate methods used to capture the expectancy term. Final results of their expanded model tests indicated that the addition of nonexpectancy terms to Vroom's model increased its predictive power considerably.

This study is primarily data analysis oriented. In a manner similar to Lewis (1978) and Mosbach and Scanlan (1979), it focuses on multivariate model testing and determining those factors and outcomes that affect the stated career intent for the following Air Force personnel groups: (1) pilots and navigators; (2) scientists and engineers; (3) physicians; (4) enlisted personnel in designated skill shortage career fields; (5) all officers; and (6) all enlisted personnel.

A guiding theme for this research is developed from Vroom's observation that:

Theories which do not lead to the systematic
collection of data to test them are of limited value.
Similarly, data collection in the absence of the con-
struction of models or theory to explain the data can
be wasted effort (1964:286).

Theoretical Background

Expectancy Theory. Building on earlier theories of

cognitive processes of motivation, Victor H. Vroom developed

in 1964 what is known today as the first integrated model of

expectancy theory. Adding the historical perspective of

choice behavior to cognitive motivation concepts, Vroom

hypothesized that:

. . . the choices made by a person in a given situa-
tion are explained in terms of his motives and cognitions
at the time he made the choice. The process by which
these motives or cognitions were acquired is not speci-
fied nor is it regarded as crucial to a consideration of
their present role in behavior (1964:14).

Vroom, from the perspective of expectancy theory, viewed the

major determinants of human behavior as being the beliefs,

expectations, and anticipation individuals have concerning

future happenings. His model incorporates these ideas as

well as the assumption that behavior is subjectively rational.

Two interrelated propositions in equation form con-

stitute the basis of Vroom's expectancy theory model.

Central to the model is the idea that people behave in ways

that maximize certain types of outcomes (such as rewards)

and minimize other outcomes (such as punishments). The

model is built around three variables:

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1. <u>Valence</u> - the anticipated desirability or attractiveness of an outcome to an individual. According to Vroom (1964), valence can be positive, negative, or zero (zero implies indifference). Any given outcome may be positively valent to some individuals and negatively valent to others. For example, the job outcome of frequent travel may be highly desirable to some individuals and at the same time highly undesirable to other individuals.

2. <u>Instrumentality</u> - a belief concerning the likelihood that a second outcome will follow the occurrence of the first outcome. Vroom (1964) referred to instrumentality as an outcome-outcome association with values that can range from -1 to +1. As an example, if an individual was certain that a high level of performance (first outcome) would lead to a promotion (second outcome), then the perceived correlation or instrumentality of outcome one for outcome two would be +1. Alternatively, if the individual was certain that a high level of performance would not lead to a promotion, then the instrumentality of outcome one for outcome two would be -1.

3. <u>Expectancy</u> - a subjective probability or likelihood estimate that a given act will be followed by a given outcome. Vroom (1964) described expectancy as an action-outcome association with values ranging from 0 to +1. For example, an individual feels that if he studies ten hours per week he has a 75 percent chance of getting an A in a

course. The action is ten hours of study per week; the outcome is an A in the course; and the corresponding expectancy value is .75.

Using the first two variables, valence and instrumentality, Vroom formulated Proposition 1 (hereinafter referred to as the valence model):

$$V_j = f_j [\sum_{k=1}^{n} (V_k I_{jk})] \qquad j = 1...n \quad (1964:17)$$

where V_j = the valence of outcome j

V_k = the valence of outcome k

I_{jk} = the perceived instrumentality of outcome j for the attainment of outcome k

n   = number of outcomes

Basically, the valence model states that the attractiveness of a given outcome V_j (e.g., high job performance) is a function of the sum of the products of all other outcomes' attractiveness, V_k (e.g., pay, recognition) with the perceived correlation that outcome V_j will lead to a given V_k. V_j is commonly referred to as a valence of a first level outcome (e.g., some type of work behavior), while V_k is commonly labeled valence of a second level outcome (e.g., a reward) (Wahba and House, 1974).

By combining expectancy with the valence model, Vroom further derived Proposition 2 (hereinafter referred to as the force equation):

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$$F_i = f_i \left[\sum_{j=1}^{n} (E_{ij} V_j) \right] \qquad i = n - 1 \ldots m \quad (1964:18)$$

where F_i = the force on the individual to perform act i

          E_{ij} = the strength of the expectancy that act i will be followed by outcome j

          V_j = the valence of outcome j

The force equation states that the motivational force (F_i) on a person to perform act i (e.g., high job effort) is a function of the sum of the products of all outcomes' (e.g., high job performance) attractiveness with each subjective probability (E_{ij}) that a given action i will lead to a given outcome (V_j).

Mitchell and Biglan (1971) and Heneman and Schwab (1972) reviewed several studies of expectancy theory and found the results generally supportive; however, the magnitude of the support varied from study to study. Mitchell (1974) reviewed over 40 studies utilizing variations of expectancy theory. He also found general support for the theory, but saw significantly more support for the valence model than for the force model.

Recent studies by Herriot and Ecob (1979), Lewis (1978), Mosbach and Scanlan (1979), Peters (1977), and Stahl (1979) have provided substantial support for Vroom's valence model. Only Peters (1977) provided any support for the force model. (Herriot and Ecob tested only the valence model.) In the study by Peters, expectancy was not

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conceptualized as a subjective probability as suggested by Vroom, but as a perceived correlation. Therefore, it may be argued that the model he operationalized did not parallel Vroom's view of the force model.

Several researchers (Wahba and House, 1974; Mitchell, 1974; Connolly, 1976; Schwab, Olian, Gobblieb, and Heneman, 1979) have questioned the meaning and application of expectancy as a theoretical concept. As mentioned earlier, Mosbach and Scanlan (1979) attempted with three separate methods to operationalize expectancy (E_{ij}). After extensive testing, they concluded:

> Faced with these data, the researchers were convinced that the expectancy values added nothing to the predictive power of the career intent models that used expectancy theory as their foundation (1979:78).

Due to the aforementioned difficulties encountered with the expectancy term, this study makes no attempt to operationalize Vroom's force model. It is also the purpose of this research to adhere to Vroom's view of the valence model as a within-person behavioral choice model. As such, the testing procedure for the valence model consists of computing two valence scores (V_j) for each individual. One score indicates his/her valence for an Air Force career while the other indicates his/her valence for an alternative (civilian) career. The difference between the two scores is the value to be correlated with the individual's stated career intent to determine the power of the valence model.

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<u>Fishbein/Graen</u> <u>Model</u>.

> If our conceptual framework helps to identify over-
> looked variables or processes, then it will have been
> fruitful, even though details of the model may later be
> shown to be incorrect (Vroom, 1964:286).

In the preceding statement Vroom alludes to the probability

that his model is not the complete answer, that other vari-

ables may add significantly to understanding the behavioral

choice process.

Multivariate behavioral models proposed by Fishbein

(1967) and Graen (1969) both identify a nonexpectancy term

as an integral part of an individual's intention to perform

a given behavior. In the Graen model the nonexpectancy type

term is stated as:

$$\sum_{j=1}^{J} (R_j P_j) \qquad\qquad (1969:22)$$

where R_j = the individual's perceptions of what others
             expect him to do

P_j = the perceived pressure to comply with the
             expectations of others

j = a person who is 'significant' to the individual
             (e.g., spouse, family, friends)

The nonexpectancy term in Fishbein's model is given as:

$$(BH) \text{ x } (Mc) \qquad\qquad (1967:488)$$

where   BH = the individual's belief as to what he/she is
             expected to do or should do in the situation

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Mc = the individual's motivation to comply or how much he/she wants to do what is perceived to be expected of him/her.

Given the definitions of both terms, it is clear that they are equivalent measures, both describing an external influence variable. Another way of describing this external influence variable would be as the value of the perceived expectations of others multiplied by a value of the motivational pressure to comply with those expectations. The complete Fishbein/Graen model can be described as the expectancy theory model plus an external influence variable.

Parker and Dyer (1976) tested a Fishbein/Graen type model and concluded "that the addition of nonexpectancy variables to the expectancy theory model enhanced its validity with respect to the behavioral criterion (1976:114)." They defined the external influence variable as a wife/family index and subsequently determined that it had a large impact on an individual's retirement decision behavior. A comparison test conducted by Hom, Katerburg, and Hulin (1979) found that the Fishbein model predicted reenlistment intention and behavior more accurately than two other models that were tested. In another test of the Fishbein/Graen type model, Mosbach and Scanlan (1979) concluded that it was significantly stronger than Vroom's valence model alone.

The present research effort operationalizes the Fishbein/Graen model using Vroom's valence term plus an external influence variable, both of which are computed from

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questions included in the survey. The components of the
external influence term are labeled (1) the perceived expec-
tations of others and (2) the motivation to comply with
those expectations.

Mobley Model. Current reviews of turnover literature
by Mobley, et al. (1979) and Munchinsky and Tuttle (1979)
indicate a generally negative and consistent relationship
between overall satisfaction and turnover. Mobley, et al.,
add, however, that in most of the studies less than 14 per-
cent of the variance is accounted for. They advocate dis-
continuing further bivariate analysis of turnover. Instead,
they suggest more multivariate studies are necessary in
order to explain a greater percentage of the variance and to
evaluate the merit of many different variables thought to be
related to turnover.

Starting from the idea that turnover is an individual
choice behavior, Mobley, et al. (1979) proposed a multi-
variate model of the turnover process which posited that the
immediate precursor to actual turnover is intention to quit.
They further proposed that:

> The primary determinants of intention are thought to
> be (a) satisfaction, (b) attraction expected utility of
> the present job, and (c) attraction expected utility of
> alternative jobs or roles (1979:518).

Satisfaction is seen by Mobley, et al., as present
oriented while the attraction expected utility terms are
future oriented. It is the dynamic relationship between
current job satisfaction and the anticipated attraction of

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job alternatives as they affect the career choice decision that is the main core of what will be called the Mobley model. There are, however, several moderating variables that interact with the terms already discussed. They include centrality of work values, beliefs concerning nonwork consequences of career decisions, and contractual constraints (Mobley, et al., 1979).

One research effort that has operationalized Mobley's (1979) multivariate model is that of Mosbach and Scanlan (1979). They utilized the Hoppock (1935) Job Satisfaction Index as the current satisfaction variable, Vroom's valence term as the determinant of attraction expected utility, and the external influence variable as a determinant of beliefs concerning nonwork consequences of career decisions. The results of a forced inclusion regression with stated career intent as the criterion produced a multiple correlation of .635 and led Mosbach and Scanlan to declare it more powerful than Vroom's valence model and the Fishbein/Graen model. They tempered the declaration by saying that the increase in power by adding the current satisfaction term to the Fishbein/ Graen model was statistically significant but small.

This study proposes to operationalize and test Mobley's model in addition to the other two models already mentioned. The Mobley model tested is, in essence, the Fishbein/Graen model plus the Hoppock job satisfaction

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variable. A further description of the Hoppock variable is presented in Chapter II.

The Criterion

An issue that has been addressed before (Lewis, 1978; Mosbach and Scanlan, 1979) is the efficacy of using stated career intent as a substitute for actual turnover in predictive studies. Both Lewis and Mosbach and Scanlan cited earlier studies that had examined the relationship between intention and actual behavior (Alley and Gould, 1975; Kraut, 1975; Shenk and Wilbourn, 1971; and Waters, Roach, and Waters, 1976) and found that there were significant correlations between expressed intentions and consequent actions. In another study concerning retention of Navy personnel, La Rocco, Pugh, and Gunderson (1977) determined that expressed intent to reenlist was the best predictor of actual reenlistment behavior. Enough favorable research exists to warrant the use of respondent stated career intent as the criterion variable for this study.

Major Research Objectives

There are four major objectives to be accomplished in this study of career intent. Descriptions of all three of the models mentioned in the objectives were presented earlier in this chapter.

Objectives 1 to 3 - Determine the power of Vroom's valence model, the Fishbein/Graen model, and Mobley's model in predicting the career intent of Air Force personnel.

Objective 4 - Determine those outcomes which are the best predictors of the career intent of Air Force personnel.

Specific Hypotheses to be Tested

1. The stated career intent of Air Force personnel can be significantly predicted by Vroom's valence model.

2. The Fishbein/Graen behavioral choice model exhibits more predictive power than Vroom's valence model.

3. Mobley's behavioral choice model exhibits more predictive power than either Vroom's valence model or the Fishbein/Graen model.

4. The predictive power of all three models does not vary significantly across officer and enlisted personnel.

5. There is no significant difference between pre-defined personnel categories in the order of outcome influence.

Limitations

The survey on which the present study is based has been completed by a random sample of all grade categories from E-1 to O-6 in the Air Force. The personnel completing these surveys were distributed throughout a large number of career fields in the Air Force. Because the purpose of this

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research includes the testing of three separate behavioral choice models, the study is time constrained to considering only those specific Air Force career categories that are currently experiencing significant manpower shortages. The following categories are separately analyzed:

Category 1: Pilots and Navigators (officer)

Category 2: Scientists and Engineers (officer)

Category 3: Physicians (officer)

Category 4: All Officers

Category 5: All Enlisted Personnel

Category 6. Selected Enlisted AFSC's

A second limitation involves the year groups that are analyzed for each of the categories selected. An upper limit (for year group analysis) will be placed on each category based on the determination of the "golden handcuff" point for Air Force personnel included in this research. The golden handcuff point is considered to be that year point at which the variance in the criterion career intent variable becomes negligible. One possible reason for the occurrence of the handcuff point in the military is the existence of a twenty year retirement. Chapter II provides a detailed explanation of the golden handcuff analysis performed for this study.

II. Methodology

Overview

The methodology chapter is designed to provide a
detailed description of the procedures used to accomplish
the major research objectives and test the specific hypoth-
eses as presented in Chapter I. Emphasis is placed on
explaining the purpose of the various statistical techniques
and how they are applied in the research. Several concepts
introduced in the first chapter are further described in
this chapter.

The overall structure of this chapter is developed
in four major sections. The first section provides general
information on the survey and discusses the variables that
are used in this research. The second section lists the
personnel categories that are tested and clarifies the
limitations imposed with respect to year group analysis.
The mechanics of data transformation and preparation is the
topic of the third section. The fourth and final section of
this chapter presents a five part discussion of the statisti-
cal analysis.

The Survey

Origination. In 1975 the Air Force established a
special group whose purpose was to study and evaluate the

various "people programs" in existence in the Air Force at that time. The study group was dubbed the Air Force Management Improvement Group (AFMIG) and was composed of Air Staff personnel and other Air Force members of various grades, job specialties, and backgrounds (Manley, Gregory, and McNichols, 1975).

It was through the efforts of AFMIG that the first Quality of Air Force Life (QAFL) Survey emerged. The first survey, constructed in 1975, consisted of 150 questions relating to various facets of Air Force life. A significant portion of the survey was developed around nine factors deemed to be of central importance by the study group. The factors included economic standard, economic security, free time, work, leadership supervision, equity, personal growth, personal standing, and health. In summarizing the results of the first survey, Manley, et al., emphasized that:

> . . . the primary value of this effort may well be that it will establish a series of baseline measurements which, when replicated in the future, will provide indications of change in the QOL of Air Force members (1975:14).

In a continuing effort, two additional Quality of Air Force Life Surveys have been conducted since the initial 1975 survey. The second survey was completed in 1977 and the third was finalized early in 1980. Much of the development of the QAFL surveys, particularly the 1980 version, was due to the combined work of Lt. Colonel C. W. McNichols,

Lt. Colonel T. R. Manley (now retired), and Captain M. J. Stahl of the Air Force Institute of Technology.

The 1980 Survey. The research findings presented in this study are based on data obtained from the 1980 U.S. Air Force Quality of Air Force Life Active Duty Air Force Personnel Survey (hereinafter called the 1980 QAFL Survey). The main difference between the current and past surveys involves the inclusion in the 1980 QAFL Survey of 27 questions that are designed to be used in the operationalization of Vroom's valence model.

Initially, 10,478 survey questionnaires were distributed on a weighted basis (e.g., a larger percentage of officers received the questionnaire than enlisted personnel) by the research and measurements section at AFMPC (AFMPC/YPS) to 141 locations Air Force wide. At each location, an Air Force Survey Control Officer/NCO was responsible for disseminating the questionnaires to randomly selected Air Force personnel in the grades of E-1 to O-6. Completion of the survey was on a strictly voluntary basis with complete anonymity guaranteed to each respondent.

Of the total number of surveys sent out, 5425 were returned, for an overall response rate of 51.8 percent. A number of the respondents (87) provided further comments in addition to completing the questionnaire. The weighted sample included 923 officers and 4442 enlisted personnel. The percentage of males and females in the sample was 92

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and 8 respectively. Slightly under 80 percent of the total
sample indicated they were married. Approximately 7 percent
of the total sample respondents were rated. A reproduction
of the 1980 QAFL Survey is presented in Appendix A.

Only a portion of the 144 questions contained in the
survey were actually involved in this study. The questions
used included eleven of the demographic type, one of the
career intent type, four of the job satisfaction type, and
27 of the expectancy theory type. With the exception of the
demographic variables, a list of all the variables used in
this study and their definitions is given in Appendix B.

The Demographic Variables. The eleven demographic
questions were analyzed in order to determine the basic
characteristics of the sample population and to aid in the
process of personnel category analysis. The specific demo-
graphic items addressed were education, marital status,
grade, total active federal military service (TAFMS),
commissioning source, active duty service committment (ADSC),
sex, Air Force Specialty Code (AFSC), and aeronautical rating.
Each of the demographic questions was analyzed through the
use of the SPSS Subprogram FREQUENCIES, which is discussed
in detail in the statistical analysis section. The variable
names and definitions for each demographic question used in
this study is given in Table I.

TABLE I

Demographic Variables

Variable Name	Question Number *	Definition
GRADE	3	Individual's current rank
TAFMS	5	Total active federal military service years
EDUC	6	Highest level of education achieved
MARST	7	Marital status
COMSOURC	8	Source of Commission
SEX	10	Sex of Respondent
ADSC	14	Active duty service committment in years
A1	16	1st digit of AFSC (Air Force Specialty Code)
A2	17	2nd digit of AFSC
A3	18	3rd digit of AFSC
RATING	19	Aeronautical Rating

*Appendix A: Survey Questionnaire

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The Criterion Variable. Question 11 on the survey is used as a measure of career intent (INTENT). The question requires the respondent to state his/her intention toward making the Air Force a career. The possible responses on a five point scale range from 'definitely intend to make the Air Force a career' to 'definitely do not intend to make the Air Force a career'.

The ideal criterion in a study of this type would be actual turnover, identifying those who have remained in or left the Air Force. However, data of this type were not available and time limitations prevented a longitudinal analysis from being undertaken. The next best alternative, stated career intent, was therefore used. As discussed in Chapter I, stated career intent has been shown to be closely related to actual turnover and is considered as an acceptable substitute for it.

Expectancy Theory Variables. There are some fundamental issues dealing with second level outcomes in expectancy theory research that underly the formulation of the valence and instrumentality questions on this survey. Although this author had no part in the decision as to the particular outcomes selected for inclusion in the survey, he feels obliged to discuss three of the outcome issues that are pertinent to expectancy theory question formulation.

The first issue involves the number of outcomes that are used. Léon (1979), Lewis (1978), Mitchell (1974),

Mosbach and Scanlan (1979), Parker and Dyer (1976), and Schwab, et al. (1970) have all considered the effects of differing numbers of outcomes on the accuracy of prediction made with expectancy theory. The general consensus is that using a large number of outcomes is desirable from a theoretical standpoint in order to ensure that no potentially relevant outcomes are left out. In actual research, however, Parker and Dyer found that an expectancy theory model containing 25 outcomes was less accurate than a model that contained only the eight most important outcomes. They further suggested "that there is a floor below which the elimination of relatively unimportant outcomes becomes dysfunctional (1976:112)." Schwab, et al. (1979) support Parker and Dyer's finding on using a large number of outcomes, stating that psychometric considerations should be taken into account when making a decision concerning the number of outcomes. They felt that adding unimportant outcomes may produce some unreliability of measurement and therefore lead to a reduction in model predictability.

The second issue of interest concerns the method used to select outcomes for use in a given situation. The basic strategies appear to be: (1) using a subject generated outcome list, or (2) using a researcher generated list. Using the subject generated approach, even though theoretically appealing, does present considerable operational

problems. Similarly, the use of only researcher generated
outcomes can create the problem of lists that are either too
short or too long.

Lewis (1978) and Mosbach and Scanlan (1979) faced
the outcome selection problem in their respective expectancy
theory research efforts. It appears that in both cases, the
researchers adhered generally to the idea proposed by
Connolly that:

> . . . outcomes identified by available survey data,
> preliminary interviews and pilot testing, particular
> theories of needs, or the researchers informed intuition
> will all find a place (1976:39).

The nature of specific outcomes is the final issue
addressed. An outcome is usually categorized as either
externally administered (extrinsic) or internally adminis-
tered (intrinsic). Examples of extrinsic outcomes include
pay, promotion, or commendations, while feelings of pride or
achievement would be considered intrinsic in nature.

The general controversy surrounding intrinsic/
extrinsic outcomes is whether or not intrinsic outcomes
should be included with extrinsic outcomes when testing
Vroom's expectancy theory model. Although Vroom did not
explicitly exclude intrinsic outcomes from consideration in
his 1964 model, Mitchell (1974) has argued that Vroom's
implication was to only consider extrinsic outcomes. In
contrast, Albanese (1978) and Hackman, Lawler, and Porter
(1977) share the conviction that both intrinsic and extrinsic

outcomes or valences should be included in the expectancy theory model.

The question of which type of outcomes (intrinsic or extrinsic) has more predictive power has been considered in research efforts by Graen (1969), Mitchell and Albright (1972), Mitchell and Knudsen (1973), and Parker (1974). These and similar studies have produced mixed results. Parker's (1974) findings indicated that there was no significant difference in power between intrinsic and extrinsic outcomes in predicting early retirement of Naval officers. The possibility exists that using intrinsic and extrinsic outcomes jointly or separately in expectancy theory studies may depend significantly on what the criterion is and what methodology is applied.

There are nine second level outcomes used in this research effort. Eight of the nine outcomes (1 to 7 and 9) are involved in the expectancy theory model tested. Of the eight outcomes, seven are extrinsic and one is intrinsic. Selection of the specific outcomes was made on the basis of recent research in the area of career choice (Lewis, 1978; Mosbach and Scanlan, 1979). A list and brief definition of all nine outcomes is presented in Table II.

Valence Variables. The survey contains nine questions (61 to 69) which ask the respondent to indicate the attractiveness of each of the nine previously mentioned outcomes independent of any specific career. Responses are

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TABLE II

List of 2nd Level Outcomes

Outcome Number	Definition
1	Earning a high salary
2	Promotions based on job performance
3	An interesting and challenging job
4	A set of rules and regulations governing personal behavior
5	A twenty year retirement at 40 percent of total salary
6	Effective use of your abilities and training by your employer
7	Extended separation from family or home and friends
8	A favorable attitude on the part of spouse/family regarding your career
9	Requirement to attain positions of increased rank and responsibility in order to remain a member of your organization

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made on an eleven point bi-polar scale. The scale is verbally anchored with responses that range from 'extremely undesirable' to 'extremely desirable'.

This operationalization of the valence of a second level outcome follows as closely as possible to Vroom's original formulation. Specifically, valence is seen as anticipated satisfaction and not as importance or value. It can be either positive, negative or zero (indifferent). The variable names and brief definitions of all nine valence questions are presented in Appendix B, Table XVIII.

Instrumentality Variables. Questions 70 to 87 on the survey measure the respondent's perceived correlation or instrumentality of a first level outcome (Air Force or civilian career) with nine different second level outcomes. Close adherence to Vroom's original formulation of instrumentality is the intent of these questions, just as it was with the valence questions.

Following Vroom's formulation, instrumentality is operationalized as a perceived correlation or association between outcomes, not as a probability value. The scale utilized is a verbally anchored, eleven point, bi-polar type. The instrumentality values can be positive, negative, or zero (undecided). Responses can range from 'completely agree' to 'completely disagree'. Questions 70 to 78 measure Air Force instrumentalities and questions 79 to 87 measure

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civilian instrumentalities. Variable names and brief defi-
nitions of all instrumentality variables can be found in
Appendix B, Table XVIII.

External Influence Variable. The two terms that
operationalize the Fishbein/Graen model as discussed in
Chapter 1, are Vroom's valence term and an external influence
term. In this study the external influence variable (EXT)
is computed by multiplying together two component parts:
(1) the perceived expectations of others, and (2) the moti-
vation to comply with those expectations.

The first component of the term is operationalized
as question 77 on the survey. The question relates to per-
ceptions of the spouse/family expectations concerning the
respondent's having an Air Force career. The second com-
ponent of the external influence term is simulated by
question 68 on the survey. This question is a measure of
how strongly the respondent desires a favorable attitude
from the spouse or family concerning his/her career.

The external influence term is developed in a manner
comparable to the development of Mosbach and Scanlan's (1979)
"external pressure" term. Even though the questions used to
operationalize the external influence variable are of an
expectancy theory design, they are considered adequate for
use with the Fishbein/Graen model used in this study.

Current Satisfaction Variable. As adapted for this
study, the Mobley model extends the Fishbein/Graen model

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through the addition of a current satisfaction term. The Hoppock job satisfaction index is used as the current satisfaction variable in the Mobley model. It is computed as the summation of questions 44 to 47 of the survey and given the variable name of HOPP.

McNichols, Stahl and Manley (1978) evaluated the Hoppock index in terms of distribution, construct validity, convergent validity, concurrent validity and reliability. They concluded that it performed well in a variety of situations and would be of significant use in organizational research.

Along with being psychometrically sound, the Hoppock index is also easy to use. The four questions that are combined to form the index are clearly and simply worded. For the purposes of this research, the Hoppock job satisfaction index is a logical choice over the more complex and extensive indexes.

Projected Total Service Variable. The variable computed as the sum of question 5 on the survey (TAFMS) and question 14 (ADSC), is called the projected total service index (SERVICE). Thus, if a given Air Force member is in his sixth year of active service in the military and has just incurred a three year educational commitment, his/her projected total service index would be eight. A discussion of the use of projected total service index (SERVICE) is presented in the statistical analysis section of this chapter.

The Categories

As a prerequisite to the actual statistical analysis,
it is necessary to further define the specific personnel
categories to be analyzed. For each personnel category, it
is also important to establish limitations on the year groups
to be considered. This section presents a discussion of
year group limitation followed by detailed descriptions of
the officer and enlisted categories respectively.

Service Limitation and the Golden Handcuffs. The
nature of limiting category analysis by SERVICE years is
related to the concept of a "golden handcuff" point in the
military. Essentially, once a military member reaches a
certain career year point, any incentives to change careers
are overpowered by the attraction of one particular outcome,
a twenty year retirement program. For those members who are
at or have passed the golden handcuff point, the variance in
stated career intent is expected to be negligible. In the
present study it would serve no useful purpose to extend the
analysis beyond the golden handcuff point. Therefore, prior
to the testing of any of the research hypotheses, a determi-
nation of the golden handcuff point for all personnel was
made. This year point, determined using projected total
service years, was to be designated as the category golden
handcuff point and provide an upper bound on analysis.

The one category exception to the golden handcuff
limitation was Category 6 (selected enlisted AFSC's). Only

those enlisted personnel in Category 6 who were in their sixth to tenth year of active military service were analyzed. The primary reason for this different limitation was due to the special interest that the Enlisted Retention Section at AFMPC has in the Category 6 personnel. A telephone interview between this author and Captain Bailus Dailey, Chief of the Enlisted Retention Section at AFMPC indicated that the main retention problem with Category 6 personnel involves those members in the second term reenlistment phase (Dailey, 1980). Since this phase normally occurs at between eight to ten years of TAFMS, it was decided that the analysis of those individuals in their 6th through 10th year of enlisted service would provide the most useful information on the career intent decision.

Officer Categories. As described in Chapter I, the Air Force is experiencing considerable difficulty in retaining three basic categories of officer personnel: pilots and navigators, scientists and engineers, and medical officers. This study examined the stated career intent of the following four categories of officers:

        Category 1: Pilots and Navigators
           By AFSC: Pilot: 10XX, 11XX, 12XX, 13XX, 14XX
                     Navigator: 15XX, 22XX

        Category 2: Scientists and Engineers
           By AFSC: Scientist: 26XX
                     Engineer: 28XX

        Category 3: Physicians
           By AFSC: Physician: 93XX, 94XX, 95XX

Category 4:   All officers

Category 4 provided information that was used in testing Hypothesis 5.   Selection of personnel for this category was based on the response given to question 8 of the survey.

Enlisted Categories.   The Air Force is currently facing serious manpower shortages in several enlisted career fields.   A list of seven AFSC areas that are affected was provided to this author by the Enlisted Retention Section at AFMPC.   The two enlisted categories examined in this study of career intent are:

Category 5:   All enlisted personnel

Category 6:   Selected AFSC's
             202XX: Radio Communications
             208XX: Voice Processing
             272XX: Air Traffic Controllers
             32XXX: Avionics
             42XXX: Aircraft Systems Maintenance
             43XXX: Aircraft Maintenance
             46XXX: Munitions and Weapons Maintenance

Category 5 information was used in conjunction with Category 4 data in the testing of Hypothesis 5.

Data Management

This section briefly describes the data transformation process and the mechanics of the pre-analysis data preparation.   In the context of this section, data apply only to survey questionnaires.   The additional comments sheets are not included, as they were managed separately.

Transformation of the Data.   All completed questionnaires returned to AFMPC/YPS were in the form of coded answer

sheets (AF Form 223). At AFMPC all the answer sheets were electronically scanned and transferred to a master tape. The master tape was then sent to Lt. Colonel C. W. McNichols at the Air Force Institute of Technology. He further processed the data by adding appropriate weighting (see Appendix C, Table XIX), recoding the format from alpha-numeric to numeric, and developing a disc file of the data for use with the CDC 7400 computer.

Recoding the Data. All of the procedures used to transform the data were obtained from the Statistical Package for the Social Sciences (SPSS) (Nie, et al., 1975). The first step in data preparation involved the use of the SPSS RECODE procedure. Question 14, relating to ADSC, was recoded in order to accommodate a value of zero for responses A and B. The valence and instrumentality questions (65 to 88) were recoded to range in value from -5 to +5 including a zero value for the Indifferent/Undecided response. Missing values for these recoded questions were indicated as 99.

Scale Adjustment. The scale adjustment procedure involved reversing the scales of specific variables such that high values became low values and vice versa and/or collapsing the scale of specific variables. The scale collapsing procedure was used with the career intent question (Q11) and is described in Part II of the Statistical Analysis Section. The scale reversing procedure was accomplished by the use of the SPSS IF command statement. Questions for

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which the scale was reversed included the career intent question (Q11) and two job satisfaction questions (Q44, Q47) of the Hoppock job satisfaction index.

Computed Variables. Any variables that were formed by a combination of one or more of the questions that were included in the survey questionnaire were called computed variables. The SPSS COMPUTE command enabled the formulation of these additional variables. A list of the computed variables used in this research effort and their definitions is presented in Appendix B, Table XVIII. The SPSS ASSIGN MISSING procedure was used to accommodate missing values for the computed variables.

Statistical Analysis

This section presents the specific statistical techniques used in the accomplishment of the research objectives. The procedures that were used in analyzing the data were also obtained from the SPSS (Nie, et al., 1975).

The statistical analysis was performed in five parts. Part I involved the use of descriptive statistics and the determination of the golden handcuff point for the personnel categories. Parts II through IV present the use of two separate methods for validating Vroom's valence model, the Fishbein/Graen model, and Mobley's model. The analyses used to determine those outcomes that most influence career intent are given in Part V. Each statistical procedure that was

used in Parts I to V was applied separately to each person-
nel category unless otherwise specified.

Part I: Descriptive Statistics. The first step of
the descriptive statistics application consisted of employing
the SPSS Subprogram FREQUENCIES to generate frequency tables
for each of the following variables (using the entire
sample): (1) GRADE, (2) TAFMS, (3) EDUC, (4) MARST,
(5) COMSOURC, (6) SEX, (7) INTENT, (8) ADSC, (9) AFSC, and
(10) RATING. The results of this frequencies analysis were
used to provide general sample characteristics, information
for a quality control check of the data, and initial person-
nel category sizes.

In the second step, Subprogram FREQUENCIES was used
to generate means, standard deviations, variances and fre-
quency tables by category for the INTENT and SERVICE vari-
ables only. The results provided an indication of the over-
all career intent for each personnel category under consid-
eration and also the range of SERVICE years (TAFMS plus
ADSC) for the categories.

The information obtained on the SERVICE variable in
the second step was applied in a third step determination
of the golden handcuff point for personnel Categories 1 to 5.
The procedure involved using SPSS Subprogram FREQUENCIES to
generate means, variances, and frequency tables by SERVICE
year for the variable INTENT.

The golden handcuff point was determined as the SERVICE year at which the variance in the INTENT variable became negligible. All further analysis using the five aforementioned categories was constrained to those SERVICE years below the golden handcuff point.

Step 4 provided further frequencies analysis for personnel categories 1 to 5. Specifically, SPSS Subprogram FREQUENCIES was used to compute means, variances, and frequency tables for the following variables: (1) INTENT, (2) HOPP, (3) VAL, (4) EXT, (5-13) V1 to V9, (14 to 22) IA1 to IA9, and (23 to 31) IC1 to IC9. In addition, frequency tables alone were computed for the following demographic variables: (1) GRADE, (2) EDUC, (3) MARST, (4) COMSOURC, (5) SEX, and (6) RATING.

The last step of Part I duplicated the procedures of the preceding step for Category 6 personnel. The only difference was the stipulation in this step that only that portion of Category 6 personnel in their sixth to tenth year of active service was considered.

Part II: Vroom's Valence Model Validations. Vroom's valence model was validated using two different statistical techniques. The first validation was accomplished using a within person approach with bivariate correlation and the second validation involved the use of discriminant analysis.

The appropriateness of using a within person analysis for testing expectancy theory models has been the subject of

considerable discussion (Herriot and Ecob, 1979; Mitchell, 1974; Parker, 1974; Parker and Dyer, 1976). Proponents of the within person approach, often point to the assumption made by Vroom "that people choose from among alternative acts the one corresponding to the strongest positive (or weakest negative) force (1964:19)." This study accepted the within person approach of testing Vroom's valence model as the method Vroom advocated using.

In a within person analysis, valences of first level outcomes (career) are computed for the alternatives being studied (Air Force and civilian) and then tested to determine the frequency with which the higher valence value corresponds to the respondent's stated choice (career intent). Therefore, to test Vroom's valence model using a within person approach first required the computation of the valences of an Air Force career and civilian career. The difference between the two valences was defined as the total valence and was the predicted career intent value. A positive value of total valence indicated the preference for an Air Force career while a negative value implied preference for a civilian career. The valence model can be described in equation form as:

$$\text{Career Intent} = \sum_{i=1}^{8} I_{(AF)_i} V_i - \sum_{i=1}^{8} I_{(CIV)_i} V_i \qquad (1)$$

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where V_i = the valence of the 2nd level outcome i

$I_{(AF)_i}$ = Air Force instrumentality value

$I_{(CIV)_i}$ = Civilian instrumentality value

The spouse/family opinion IV (instrumentality-valence) term was not included as a component of Vroom's valence model. Instead, it was analyzed separately as the external influence term in later analyses.

The SPSS Subprogram PEARSON CORR was the procedure used to actually carry out the within person analysis of Vroom's model. The results are presented as bivariate correlations between the total valence variable (predicted career intent) and the respondent stated career intent.

Discriminant analysis was used as the second method of validating Vroom's valence model. The objective of using discriminant analysis was basically to be able to distinguish between two groups of individuals: (1) a group consisting of those Air Force personnel who intend to remain in the Air Force (Career Group), and (2) a group consisting of those individuals who intend to leave the Air Force (Non-Career Group).

In using the discriminant approach, career intent was no longer considered an interval scaled variable with five possible responses. Instead, it was transformed into a dichotomous choice variable. The transformation decision required some empirical knowledge of how various career

intent responses relate to actual turnover. The determination of which career intent responses were indicative of personnel in the Career group and which were indicative of Non-Career group personnel was based on a review of longitudinal research involving military turnover.

Shenk and Wilbourn (1971) carried out a longitudinal study of turnover among 4000 Air Force officers in which career intent was measured on a five point scale identical to that used in this study (see Appendix A: Question 11). Of those officers who initially indicated they would definitely or most likely stay in the Air Force, 89 percent and 78 percent respectively were still in the Air Force five years later. Only 59 percent of those officers who initially indicated they were uncertain about an Air Force career were still in the Air Force five years later. Of those officers who initially indicated they would definitely or most likely leave the Air Force, 93 percent and 71 percent respectively had actually left the Air Force five years later.

Another longitudinal study by Alley and Gould (1975) looked at the relationship between career intent and turnover for over 54,000 enlisted personnel. The career intent question used was based on a four point scale and included the following responses: (1) Yes, I plan to reenlist; (2) Uncertain, probably will reenlist; (3) Uncertain, probably won't reenlist; (4) No, I plan to separate. Respondents had between one to four years TAFMS.

Results of the Alley and Gould (1975) study indicated considerable career uncertainty and inconsistency for those personnel with less than three years TAFMS. In the three to four year group, of those personnel who indicated they would stay in the Air Force or probably stay in, 70 percent and 41 percent respectively actually did remain in the Air Force. Approximately 95 percent of those who indicated they would leave the Air Force and 85 percent of those who indicated they probably would leave, actually did leave the Air Force.

Comparison of the results of both studies reveals only one major discrepancy. Almost twice as many officers as enlisted personnel in the 'most likely or probably will stay in' group actually did stay in. One possible explanation for this occurrence may be that enlisted personnel early in their careers are more uncertain than junior officers as to what their career plans will be because of generally less education and maturity. Another more plausible reason could be that the career intent scale in the enlisted study was too compressed. Expanding the scale to include at least a separate undecided response may have improved the percentages for the 'probably' responses.

Based on the overall results of the Shenk and Wilbourn (1971) and Alley and Gould (1975) studies and having a five point career intent scale to begin with, the two groups used in the discriminant analysis of this study

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were categorized as follows:

1. CAREER GROUP - Included those individuals whose response to the career intent question was:

a. definitely intend to make the Air Force a career, or

b. most likely will make the Air Force a career.

2. NON-CAREER GROUP - Included those individuals whose response to the career intent question was:

a. definitely will not make the Air Force a career, or

b. most likely will not make the Air Force a career.

Those personnel whose response to the career intent question was "uncertain" were not considered in the discriminant analysis.

Having determined the composition of the two groups to be used, the next step in the discriminant validation of Vroom's model involved implementing the SPSS Subprogram DISCRIMINANT. A discriminant function and two classification functions were developed from the DISCRIMINANT Subprogram. The DIRECT method was applied to determine variable entry. No prior probabilities were included in the analysis. The total valence term (VAL) was used as the discriminating variable in the analysis.

Classifying power was determined by direct evaluation of classification table results and statistical significance

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was evaluated by the F statistic. Correction was made for upward classification bias by using half of the data to build the classification functions and the other half to perform the validation. Results of the discriminant analysis and the correlational analysis together determined whether or not Hypothesis 1 was supported.

Part III: Fishbein/Graen Model Validations. The Fishbein/Graen model developed for this study is given in general equation form as:

$$\text{Career Intent} = (\text{Total Valence}) + (\text{External Influence}) \quad (2)$$

$$\text{where} \quad \text{Total Valence} \quad = \sum_{i=1}^{8} I_{(AF)_i} V_i - \sum_{i=1}^{8} I_{(CIV)_i} V_i$$

$$\text{External Influence} = IA8 * V8$$

The spouse/family outcome was not included in the total valence term as previously mentioned but was operationalized separately in the External Influence term. Validation of the Fishbein/Graen model was accomplished using both multiple regression and discriminant analysis.

The initial validation was performed with the aid of the SPSS Subprogram REGRESSION. Both terms of equation (2) were forced into a linear regression equation with stated career intent as the dependent variable. The multiple correlation coefficient, R , provided a correlational measure between the independent variables (total valence, external influence) and the dependent variable (career intent). A

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partial F-test indicated the statistical significance of the external influence term. The increase in the coefficient of determination (ΔR^2) provided a measure of the additional power of the model beyond that of Vroom's valence model.

The second validation of the Fishbein/Graen model was through the use of discriminant analysis. The approach was the same as that taken in the discriminant analysis of Vroom's model, the only two differences being that the Fishbein/Graen analysis had one additional discriminating variable (external influence) and the MAHAL method was used with forced hierarchical inclusion to determine variable entry. The results obtained from the Fishbein/Graen discriminant analysis were compared to the results of the Vroom discriminant analysis. Hypothesis 2 was evaluated in the context of the results of the separate validations of the Fishbein/Graen model.

The final analyses involving the Fishbein/Graen model consisted of reaccomplishing the correlation/regression and discriminant validations for the Vroom and Fishbein/Graen models including only married personnel in the analyses. These tests were performed to assess the impact of the spouse in the external influence term.

Part IV: Mobley Model Validations. The final model tested was the Mobley model. As adapted for this study, the Mobley model in general equation form is:

$$Career\ Intent = Total\ Valence + (External\ Influence) \\ + (Current\ Satisfaction)$$

(3)

where   Current Satisfaction = Hoppock job satisfaction
                                index

The addition of the Current Satisfaction term was hypothe-
sized to increase the predictive power of the model.

The Mobley model was first validated using the SPSS
Subprogram REGRESSION in the same manner as the Fishbein/
Graen model. The three independent variables forced into the
regression equation included total valence, external influence,
and current satisfaction. The results of the regression were
compared with the Fishbein/Graen regression results.

The second validation of Mobley's model was accom-
plished with discriminant analysis. Again, the technique
was the same as that used in the Vroom and Fishbein/Graen
discriminant analyses with the exception being the addition
of current satisfaction as another discriminating variable.
The overall classification results were compared with the
Fishbein/Graen overall classification results. The results
of the Mobley regression and discriminant analyses provided
the basis of the determination of whether or not Hypothesis 3
was supported.

Given the results of Parts II, III, and IV pertaining
to Category 4 (all officer personnel) and Category 5 (all
enlisted personnel), a determination was made as to whether

or not Hypothesis 4 was supported. The findings on Hypothesis 4 concluded the model validation analysis.

Part V: Outcome Analysis. The main intent of this study was to provide information to Headquarters Air Force that could be useful in developing future Air Force personnel plans and policies. It was therefore the objective of this part of the analysis to determine which of the nine outcomes used in this research (see Table II, p. 27) had the most impact on the career intent decision.

In the within person analysis of Vroom's valence model, it was assumed that all nine instrumentality-valence (IV) products contributed equally to the career intent decision. It seems highly unlikely, however, that a person would designate equal status to all outcomes, unless he generated the outcome list and it was not very large. Lewis (1978), Mosbach and Scanlan (1979), and others suggest that within person analysis is inadequate for determining the differential influence on career intent of various outcomes. The alternative, they feel, is the application of an across-person analysis using multiple linear regression.

Despite the possible shortcomings of using an across-person approach in model testing situations (Parker and Dyer, 1976), it was used in this analysis as an appropriate way to accomplish the outcome analysis objective. Lewis explained his use of the across-person approach in outcome analysis by stating that it

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. . . examines the behavior of the IV product terms
to determine the strength of their association with the
CAREER (career intent) criterion outside the Expectancy
Theory paradigm (1978:94).

In this outcome analysis, the Air Force IV products
were not used as predictors. This was primarily due to the
nature of the valence component of the IV term. Valence was
seen as being analogous to importance. When performing a
regression across person on the separate IV terms, the pres-
ence of the valence component tends to confound the results
through the calculation of relative importance (beta weights)
for terms that already include an importance component of
sorts.

As an alternative, the nine Air Force Instrumentality
terms alone were used as predictors in a linear regression
with stated career intent as the criterion. To operationalize
the procedure the SPSS Subprogram REGRESSION was implemented
and a forward stepwise regression was run. The statistical
significance of each variable (and associated outcome) was
determined by the partial F statistic. The relative contri-
bution of each outcome was measured using a multiple correla-
tion coefficient (R) and the change in the coefficient of
determination (R^2). A bivariate correlation using SPSS Sub-
program PEARSON CORR was also produced between the career
intent variable and each of the Air Force Instrumentalities.
In addition, the intercorrelations between all nine Air Force
instrumentalities were calculated. This was accomplished to

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take into account any possible intercorrelation effects
between the Instrumentalities (Mosbach and Scanlan, 1979).

Discriminant analysis was employed as a second
method for determining outcome influence on career intent.
The groups used were the same as those used in all previous
discriminant analyses. The nine Air Force Instrumentalities
were used as the discriminating variables. The MAHAL
STEPWISE procedure was employed in the determination of
variable entry. No prior probabilities were included in the
analysis. For each outcome the significance and relative
influence was determined using the F statistic. The results
of both the across person analysis and discriminant analysis
were used to determine if Hypothesis 5 was or was not sup-
ported.

III. Results

This chapter presents the results of the data analyses that were performed in accordance with the procedures described in Chapter II. Descriptive statistics for the entire sample comprise the initial section of results. Following the descriptive statistics are the findings of the golden handcuff analysis. Descriptive statistics by personnel category (including year group limitations) are provided after completion of the golden handcuff analysis. Then comes the results of the model validations and outcome analyses. The evaluations of the five research hypotheses are not included in this chapter. They are presented in the Summary of Results section of Chapter IV and Appendix H.

Descriptive Statistics

Sample Characteristics. The descriptive statistics for the total weighted sample (5365 cases) are presented in Appendix D, Table XX. No unusual or suspect data were observed. Results of the AFSC frequency analysis indicated that Categories 2 and 3 (scientists/engineers, physicians) contained an insufficient number of cases with which to perform model validation and outcome analysis. Therefore, these two categories were deleted from further consideration.

For the four remaining categories, frequency analysis was used to determine means and variances for the INTENT and SERVICE variables. These results are presented in Table III.

TABLE III

Descriptive Statistics: INTENT and SERVICE

INTENT (stated career intent)

Category*	Mean	Variance	n**
1	3.86	1.32	263
4	3.99	1.38	921
5	3.27	2.03	4410
6	3.23	2.07	1271
Total Sample	3.39	1.99	5331

SERVICE (TAFMS & Commitment)

Category*	Mean	Variance	n**	Range
1	11.33	32.58	264	3 to 28
4	11.42	45.62	916	1 to 29
5	8.49	42.27	4385	2 to 29
6	8.21	38.58	1266	2 to 29
Total Sample	8.99	44.07	5302	1 to 29

* Category 1 - Pilots/Navigators
  Category 4 - All officers
  Category 5 - All enlisted
  Category 6 - Selected enlisted AFSC's

** weighted category sample sizes

For the entire sample overall, the mean career intent was 3.39 and the mean SERVICE index was 8.99. Approximately 70 percent of all officer personnel (Category 4) stated that they would most likely or definitely make the Air Force a career. For all enlisted personnel (Category 5) the figure

was just over 45 percent. In addition, nearly 46 percent of all officer respondents and approximately 65 percent of all enlisted respondents had a SERVICE index of less than ten.

Determination of the Golden Handcuff Point. As discussed in Chapter II, this analysis was completed in order to estimate that SERVICE point at which the variance in the career intent variable became negligible. The results of a frequencies analysis of INTENT by SERVICE index years are given in Table IV. Over ninety percent of the total sample population was involved in the analysis.

Direct observation of the means and variances given in Table IV does not provide an obvious choice for the golden handcuff point. The decrease in variance with increasing SERVICE is fairly steady with no abrupt drops. Similarly, the mean increases gradually from 4.12 in SERVICE year 11 to 4.89 by SERVICE year 20. Although a rough estimate of the handcuff point would place it somewhere between 10 and 15 SERVICE years, it is by no means conclusive.

Because no definite golden handcuff point could be determined, it was decided that all further analyses would be accomplished using only those personnel with less than 10 SERVICE years. This limitation on SERVICE year analysis was chosen because (1) those personnel would be below the probable golden handcuff boundary point as suggested by the data in Table IV, and (2) this limitation would exclude from further analysis any personnel who had invested

50 percent or more of the time required to earn the retirement (20 years) benefit. Therefore, all analyses involving Categories 1, 4, and 5 were limited to personnel whose SERVICE index was less than 10. In addition, as discussed in Chapter II, all analyses concerning Category 6 were limited to personnel who were in their sixth to tenth years of active military service.

TABLE IV

Career Intent by SERVICE Year: Total Sample

SERVICE Year	Mean	Variance	A*	B*	n**
2	2.24	1.43	4.3	11.5	115
3	2.36	1.09	2.4	11.8	1687
4	2.84	1.40	7.2	30.4	290
5	2.66	1.36	4.7	25.9	291
6	2.84	1.77	11.7	34.7	213
7	3.14	1.45	13.2	43.5	261
8	3.29	1.51	15.0	50.5	243
9	3.72	1.27	29.4	62.5	171
10	3.93	1.20	34.7	75.9	183
11	4.12	.93	40.9	79.7	193
12	4.33	.80	53.6	86.6	121
13	4.29	.75	49.0	86.5	155
14	4.49	.51	60.4	90.3	156
15	4.61	.59	72.7	92.0	170
16	4.75	.28	78.9	96.8	116
17	4.81	.26	85.8	96.5	95
18	4.76	.41	82.5	96.3	96
19	4.83	.35	89.3	96.5	317
20	4.89	.21	92.4	98.0	105

*A = the percentage of respondents indicating they would definitely make the Air Force a career

*B = A + the percentage of respondents indicating they would most likely make the Air Force a career

**n = sample size (weighted)

Personnel Statistics by Category. Appendix E,
Tables XXI to XXIV, contains descriptive statistics for per-
sonnel categories 1, 4, 5, and 6 under the year group limi-
tations previously discussed. Data are provided for six
demographic variables, all expectancy theory variables,
career intent (INTENT), external influence (EXT), and job
satisfaction (HOPP). The number of weighted and unweighted
cases in each category is also included.

The statistics show that the percentage of females
in the all officer and all enlisted categories ran very close
to 17 percent, while in the critical officer and enlisted
categories it dropped down to below six percent. Another
observation was that a significantly higher percentage of
officer than enlisted personnel (69 percent vs. 47 percent)
were married. A summary of means for the total valence (VAL),
EXT, HOPP and INTENT variables is given in Table V. For
all four categories the mean total valence (VAL) was for a
civilian career. Observation of the mean career intent
values showed that officers on the average were more career
minded than enlisted personnel.

TABLE V

Mean Values for VAL, EXT, HOPP, and INTENT

Category	VAL	EXT	HOPP	INTENT
1	-67.79	4.03	19.48	3.20
4	-53.55	5.49	19.14	3.28
5	-56.87	2.91	17.46	2.57
6	-62.77	4.06	18.03	3.22

An illustration of the mean career intent of Category 4 (all officers) and Category 5 (all enlisted) personnel for various SERVICE years is provided in Figure 1. It clearly indicates that prior to the 10th SERVICE year the mean career intent of officers as a whole is significantly higher than for enlisted personnel. The figure also shows a substantial drop in career intent between the 4th to 5th SERVICE years for all personnel. It appears likely that this period coincides with an individual's first career decision point.

Further illustration of possible career decision points is presented in Figure 2. Between TAFMS years three to four and nine to ten the mean value of career intent increases dramatically. This points to the likelihood that a significant number of those personnel with lower average career intent leave the Air Force at the four and ten year TAFMS point.

Model Validations

The following three sections present the results of the Vroom, Fishbein/Graen and Mobley model validations. For the regression and discriminant analyses an "F to enter" column is provided in each table. Only those variables whose F values exceeded 4.0 were considered statistically significant (significance level: P = .05).
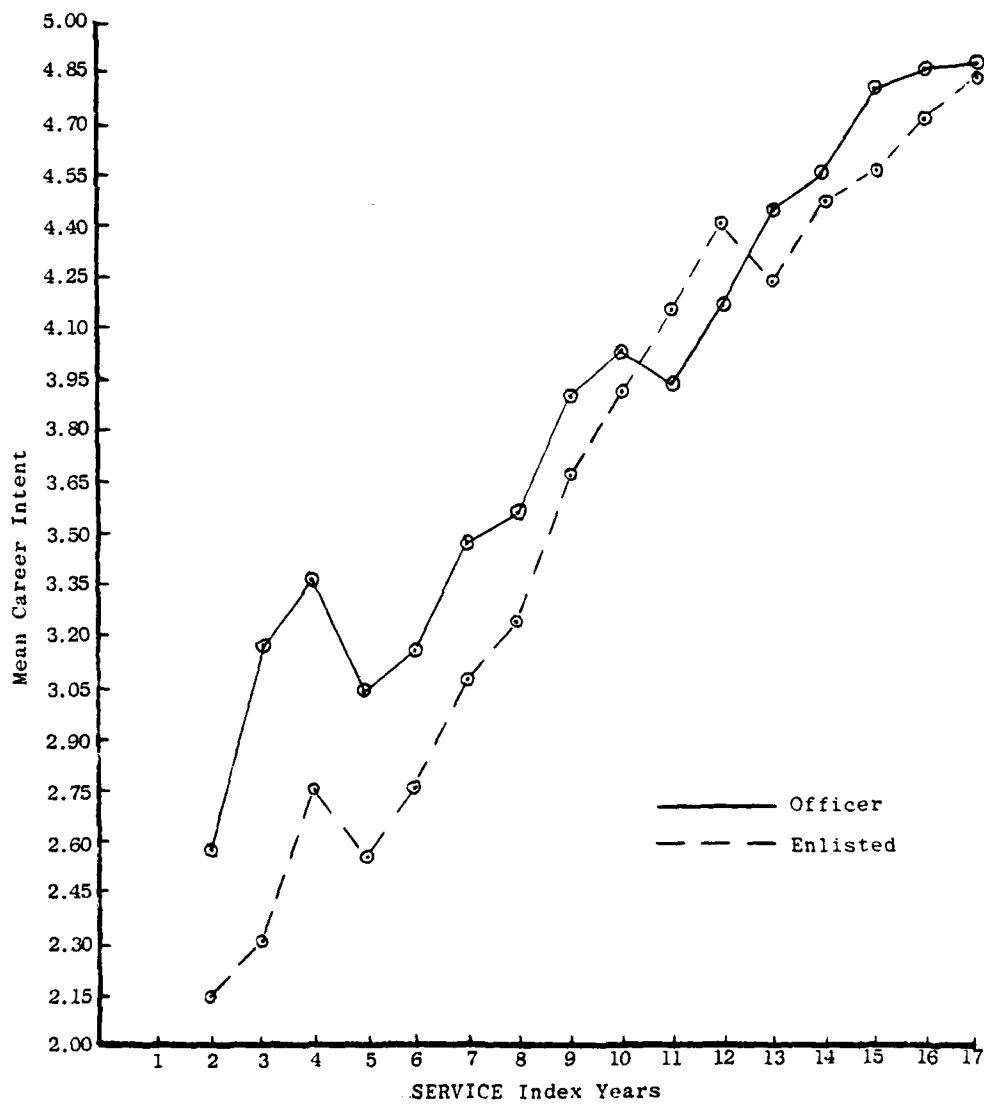
Figure 1:   Mean Career Intent by SERVICE Index Years

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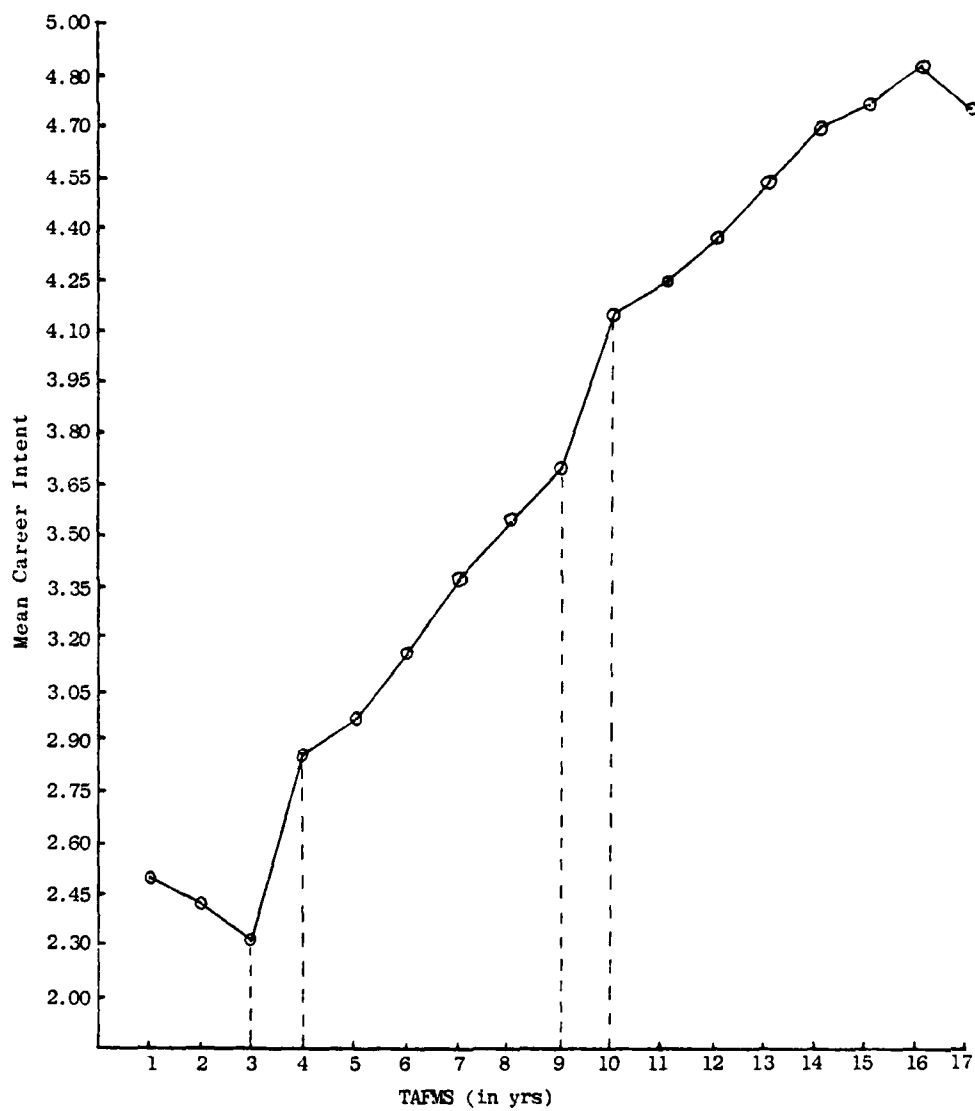
Figure 2: Mean Career Intent of All Personnel by TAFMS Year

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It would also be appropriate at this point to reemphasize those limitations that affect the remaining analyses. First, only personnel Categories 1, 4, 5, and 6 are involved in further analyses. Second, all analysis pertaining to Categories 1, 4, and 5 is limited to those personnel with SERVICE indexes of less than 10. Third, all analysis pertaining to Category 6 is limited to those personnel in their sixth through tenth years of active duty.

Vroom's Model Validations

Vroom's valence model was the initial model tested. The total valence term included eight instrumentality-valence products for each career choice (Air Force, Civilian) as discussed in Part II of the Statistical Analysis section, Chapter II. The first validation of the model was accomplished by a bivariate correlation analysis between stated career intent and Vroom's total valence term. The second validation was performed using discriminant analysis with total valence as the discriminating variable and the groups defined as either Career or Non-Career.

The Bivariate Correlation Analysis. A within person approach to the validation of Vroom's model involved the use of the SPSS PEARSON CORR procedure to compute bivariate correlation values (r) between stated career intent (INTENT) and Vroom's total valence term (VAL). The results of this analysis, presented in Table VI, illustrate the power of

Vroom's valence model in predicting career intent. The predictive ability of the model was somewhat better for the critical skill officer and enlisted categories than for the total officer and enlisted categories. All of the personnel category results were highly statistically significant. The results of the two officer categories, Categories 1 and 4, were comparable to earlier findings in similar research by Lewis (1978) (r = .52, n = 577) and Mosbach and Scanlan (1979) (r = .50, n = 1872).

TABLE VI

Vroom Bivariate Correlation Analysis

	VAL(CAT 1)	VAL(CAT 4)	VAL(CAT 5)	VAL(CAT 6)
INTENT	r = .47	r = .41	r = .36	r = .51
	(119)	(401)	(2709)	(222)

Note: ($p \leq .001$) for all categories
Numbers in ( ) are weighted category sample sizes

Discriminant Analysis. Approaching the validation of Vroom's valence model from the perspective of discriminant analysis required a modification of the use of the criterion variable, INTENT. The two groups designated for analysis were labeled the Career group and the Non-Career group, respectively. The Career group included those personnel who had indicated that they would most likely or definitely stay

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in the Air Force. Those in the Non-Career group indicated
the opposite intentions. Personnel who were undecided were
not included in the analysis.

Table VII provides the results of the Vroom discrimi-
nant analysis for the four personnel categories. Classify-
ing power is indicated as a percentage correctly classified
for the two groups separately and combined. The classifica-
tion results were obtained from a cross-validated sample
containing approximately 50 percent of the total cases in
each category, further reduced by missing data and nonclassi-
fied responses (undecided).

TABLE VII

Vroom Discriminant Analysis

| | Discriminant | | | Percent Correctly Classified | | |
Category	Variable	F to enter	n	Career	NonCareer	All
1	VAL	13.25	41	85.2	82.4	84.3
4	VAL	34.43	144	71.9	67.0	70.4
5	VAL	174.35	936	65.4	61.0	62.6
6	VAL	48.09	79	83.2	74.6	79.7

Note: n = cross validated category sample size (weighted)
       All = Career + NonCareer

All category results were statistically significant
($p \leq .01$) and highly consistent with the bivariate correla-
tion results. Classification results for Career personnel
were higher than Non-Career personnel in every category tested.

The Fishbein/Graen Model Validations

One of the research hypotheses presented in Chapter I stipulated that the addition to Vroom's basic model of a term that would account for external influences on an Air Force member would increase predictive power. A model chosen to accomplish this was adapted from the work of Fishbein (1967) and Graen (1969) and included an external influence (EXT) term. The multiplicative components of the EXT variable, the perceived expectations of others and the motivation to comply with those expectations, were operationalized using questions 68 and 77 from the survey.

The Fishbein/Graen model was tested using two distinct methodological approaches. The first approach consisted of a linear multiple regression analysis and the second applied discriminant analysis in a manner similar to that used to test Vroom's valence model.

The Multiple Regression Analysis. A forced hierarchical inclusion regression was performed with stated career intent (INTENT) as the criterion variable and total valence (VAL) and external influence (EXT) as the independent variables. The results of the forced regression are presented in Table VIII. The addition of the EXT term was statistically significant ($p \leq .01$) for all categories except Category 6 (selected enlisted AFSC's). The Fishbein/Graen multiple correlation coefficients ($\underline{R}$) ranged in magnitude from .41 to .53.

TABLE VIII

Fishbein/Graen Regression Analysis

Category	Variable	F to enter	R	ΔR^2	r	n
1	VAL	33.28	.47	.22	.47	119
	EXT	10.50	.53	.06	.37	119
4	VAL	78.76	.41	.17	.41	401
	EXT	34.71	.48	.07	.35	398
5	VAL	403.85	.36	.13	.36	2709
	EXT	131.84	.41	.04	.27	2694
6	VAL	77.25	.51	.26	.51	222
	EXT	.73	.51	.00	.11	222

Note: R_2 = multiple correlation coefficient
ΔR^2 = amount of change in the coefficient of determination
r = bivariate correlation coefficient
n = category sample size (weighted)

Observation of the changes in the coefficients of determination (R^2) showed that the addition of the EXT term increased the amount of explained variance for personnel categories 1, 4, and 5. These results indicated the Fishbein/Graen model was more powerful than Vroom's model for those categories. However, the results for Category 6 personnel showed Vroom's model the better of the two models due to the statistical insignificance of the addition of the EXT term for those personnel.

The Discriminant Analysis. In the second Fishbein/Graen validation, discriminant analysis was used to determine if the addition of the EXT variable to a discriminant function already containing the VAL variable would increase the

ability of the model to discriminate between Career and Non-Career groups. The results of the Fishbein/Graen discriminant analysis using the MAHAL method with forced heirarchical inclusion are presented in Table IX. Comparison of these results to those obtained from the Vroom discriminant analysis (see Table VII) show that only for Categories 4 and 5 was there a statistically significant increase in overall classifying power obtained by the addition of the EXT term to the model. For Category 4, the model was better at classifying Career than Non-Career personnel, while for Category 5 the reverse was true. With the exception of Category 1, the discriminant results for each personnel category compared favorably with the regression results obtained earlier.

TABLE IX

Fishbein/Graen Discriminant Analysis

Category	Discriminant Variable	F to enter	n	Percent Correctly Classified Career	Non-Career	All
1	VAL	13.25				
	EXT	3.37	41	92.6	80.2	88.6
4	VAL	34.43				
	EXT	10.74	144	78.6	69.7	75.8
5	VAL	174.35				
	EXT	48.22	936	67.3	69.8	69.0
6	VAL	48.09				
	EXT	1.21	79	83.2	74.6	79.7

Note: n   = category sample size (weighted)
       All = Career + Non-Career

Results for Married Personnel Only. To determine if the external influence term was more powerful for just those personnel who were married, the Vroom and Fishbein/Graen models were retested with married personnel only. It was hypothesized that the spouse would exert more influence over the Air Force member's career intent decision than family, friends or others would. The results of bivariate correlation, regression and discriminant analysis for married personnel only are presented in Tables X and XI.

The results of the correlation/regression analysis indicated that for married personnel in Categories 1, 4, and 5, the Fishbein/Graen model was statistically significant and was more powerful than Vroom's valence model (the increase explained variance ranged from .06 to .11). The Fishbein/Graen results for Category 6 personnel were statistically insignificant.

Comparison of the Fishbein/Graen regression results for married personnel only with those of Table VIII (married and nonmarried personnel) indicated a larger increase in explained variance was obtained when considering married personnel only. As with all previous Fishbein/Graen analyses, results for Category 6 personnel were statistically insignificant.

In considering the discriminant results for married personnel only, it was observed that even though the addition of the Fishbein/Graen EXT term was statistically significant

TABLE X

Vroom & Fishbein/Graen Correlation/Regression
Analyses: Married Personnel Only

Vroom Bivariate Correlation

VAL (Cat 1)	VAL (Cat 4)	VAL (Cat 5)	VAL (Cat 6)
INTENT			
$r = .49$	$r = .44$	$r = .37$	$r = .44$
(98)	(276)	(1298)	(149)

Note: (p $\leq$ .001) for all categories
       Numbers in ( ) are weighted category sample sizes
       r = bivariate correlation coefficient

Fishbein/Graen Regression

Category	Variable	F to enter	R	ΔR^2	r	n
1	VAL	30.79				
	EXT	12.93	.58	.09	.42	98
4	VAL	66.10				
	EXT	41.86	.55	.11	.42	276
5	VAL	211.19				
	EXT	99.76	.45	.06	.34	1298
6	VAL	34.69				
	EXT	.60	.44	.00	.098	149

Note: R_2 = multiple correlation coefficient
       ΔR^2 = amount of change in the coefficient of determination
       r = bivariate correlation coefficient
       n = category sample size (weighted)

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TABLE XI

Vroom & Fishbein/Graen Discriminant Analyses:
Married Personnel Only

| Discriminant | | | Percent Correctly Classified | | | |
Category	Variable	F to enter	n	Career	Non-Career	All
1	VAL	14.35	30	75.8	84.1	78.9
	EXT	9.10	30	87.2	84.1	86.0
4	VAL	28.14	92	81.2	66.2	76.7
	EXT	29.74	92	75.4	68.6	73.3
5	VAL	98.98	452	71.9	73.5	72.9
	EXT	61.18	449	70.7	73.6	72.5
6	VAL	14.56	66	92.9	45.5	72.0
	EXT	5.27	66	85.9	36.6	64.1

Note: n   = cross validated sample size (weighted)
        All = Career + Non-Career

for all four personnel categories, it increased the overall classifying power of Category 1 only. The classification results for Non-Career Category 6 personnel were particularly poor. The Fishbein/Graen model correctly classified only 37 percent of married, Non-Career Category 6 personnel.

Comparing the results of the married only discriminant analysis (Table XI) to the discriminant results for both married and nonmarried personnel (Tables VII and IX) indicated that a larger increase in overall classifying power was obtained when considering married personnel only. However, this held true for Category 1 personnel only. The results of Categories 4, 5, and 6 discriminant analyses

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indicated that the Fishbein/Graen model was less powerful than Vroom's model for married personnel only.

Mobley Model Validations

The final behavioral choice model tested was adapted from a multivariate model proposed by Mobley, et al. (1979). They hypothesized that one of the primary determinants of job intention was current job satisfaction. The Mobley model used in this research study was operationalized by the linear combination of a current satisfaction term with Vroom's total valence term and the Fishbein/Graen external influence term. The Hoppock job satisfaction index (HOPP) was used as a measure of current job satisfaction. As with the Vroom and Fishbein/Graen models, two separate validations were accomplished. They were performed using multiple regression and discriminant analysis respectively.

The Multiple Regression Analysis. The SPSS REGRESSION procedure was used to perform a forced hierarchical inclusion regression of INTENT with VAL, EXT, and HOPP. The purpose was to determine if the addition of the current satisfaction term (HOPP) significantly increased the predictive power of the model. The results of the Mobley regression analysis are given by personnel category in Table XII.

For all personnel categories tested, the Mobley model produced a statistically significant increase in predictive power over the Fishbein/Graen model. The increase

TABLE XII

Mobley Regression Analysis

Category	Variable	F to enter	R	ΔR^2	r	n
1	VAL	33.28	.47		.47	
	EXT	10.50	.53		.37	
	HOPP	5.56	.56	.03	.32	119
4	VAL	78.76	.41		.41	
	EXT	34.71	.48		.35	
	HOPP	41.78	.55	.07	.39	398
5	VAL	403.85	.36		.36	
	EXT	131.84	.42		.27	
	HOPP	126.90	.46	.04	.30	2694
6	VAL	77.25	.51		.51	
	EXT	.73	.51		.11	
	HOPP	7.90	.54	.03	.27	222

Note: R_2 = multiple correlation coefficient
ΔR^2 = amount of change in the coefficient of determination
r = simple correlation coefficient
n = category sample size (weighted)

in explained variance ranged from .03 to .07 for the four personnel categories. The bivariate correlations between current job satisfaction and career intent range from .27 to .38 and compare favorably to those obtained in previous research concerning job satisfaction and turnover (Mobley et al., 1979). It was also noted that for Category 6 personnel the bivariate correlation between current job satisfaction and career intent (r = .27) was much higher than between external influence and career intent (r = .11).

The Discriminant Analysis. The second validation of the Mobley model required the use of the SPSS DISCRIMINANT

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subprogram. The current satisfaction variable was forced into a discriminant function that already included the total valence and external influence terms. The classification functions were built using one half of the cases of a category and classification results were compiled using the other half of the cases.

The discriminant cross-validation results together with the partial F statistics produced from the Mobley discriminant analysis are provided in Table XIII. The addition of the current satisfaction term produced a statistically significant increase in classifying power for Categories 4 and 5. For Category 6, the classifying power actually decreased 3 percent and the results for Category 1 were statistically insignificant. For Category 6 personnel, the 3 percent drop in overall classifying power is attributed mainly to the reduction in accuracy of predicting Non-Career personnel. With the exceptions mentioned, the results were consistent with those obtained from the Mobley regression analysis.

Outcome Analysis

This particular analysis was undertaken in order to provide information on those outcomes that have the most influence on the career intent decision of Air Force personnel. All nine Air Force Instrumentalities, IA1 to IA9, were analyzed in order to accomplish this objective. To further

TABLE XIII

Mobley Discriminant Analysis

| | Discriminant | F to | | Percent Correctly Classified | | |
Category	Variable	enter	n	Career	Non-Career	All
1	VAL	13.25				
	EXT	3.37				
	HOPP	1.46	41	95.8	82.4	91.5
4	VAL	34.43				
	EXT	10.74				
	HOPP	9.84	143	86.2	75.6	82.9
5	VAL	174.35				
	EXT	84.22				
	HOPP	29.73	933	63.8	73.5	70.6
6	VAL	48.09				
	EXT	1.21				
	HOPP	12.77	79	83.5	66.4	76.6

Note: n = cross validated category sample size (weighted)
       All = Career + Non-Career

clarify, IA1 is the perceived correlation that having an Air Force career will lead to a high salary. IA2 is the perceived correlation that having an Air Force career will lead to promotions based on job performance, and so forth. The complete list of outcomes associated with the nine instrumentalities is given in Table II (p. 27). As with the model validations, two separate approaches were used to determine outcome influence; multiple regression and discriminant analysis.

Multiple Regression Analysis. A stepwise multiple regression implemented by use of the SPSS REGRESSION Subprogram was the first approach taken to determine outcome

influence. The default values for tolerance, F (in), and F (out) were used to control variable entry and deletion from the analysis. The partial F statistic determined the order of variable entry. The change in the coefficient of determination (R^2) provided a measure of the increase in explained variance achieved by adding a given variable.

The complete results of the regression of career intent with the nine Air Force instrumentalities are given in Table XIV by category. The results of a bivariate correlation analysis between career intent and all Air Force instrumentalities for each category are presented in Appendix F, Table XXV. Intercorrelations between all Air Force instrumentality variables (and associated outcomes) are included in Appendix G, Table XXVI.

The three outcomes that appeared most influential overall were: (1) an interesting and challenging job, (2) effective use of abilities and training, and (3) a favorable attitude on the part of the spouse/family regarding an Air Force career. Each of these outcomes was significant in three out of four personnel categories.

Further examination indicated that the two most influential outcomes for officers (Category 4) were also the two most influential outcomes for enlisted personnel (Category 5): (1) an interesting and challenging job, and (2) a favorable attitude on the part of the spouse/family. In addition, officers were not significantly influenced by

TABLE XIV

Outcome Analysis/Regression

Category	Variable	Associated Outcome	F to enter	R*	ΔR^2**
1 Pilots & Navigators (n = 122)	IA6	Effective use of abilities & training	23.62	.41	.16
	IA8	Favorable attitude: spouse/family	14.06	.50	.09
4 All officers (n = 413)	IA3	Interesting and challenging job	98.57	.44	.19
	IA8	Favorable attitude: spouse/family	41.23	.52	.08
	IA6	Effective use of abilities and training	16.64	.54	.03
	IA4	Rules & regulations	4.67	.55	.00
5 All enlisted (n = 2793)	IA8	Favorable attitude: spouse/family	491.21	.39	.15
	IA3	Interesting and challenging job	213.25	.46	.06
	IA7	Extended separation from family or home	75.06	.48	.02
	IA5	A 20 year retirement	73.46	.50	.02
	IA1	High salary	38.71	.51	.01

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TABLE XIV (continued)

Category	Variable	Associated Outcome	F to enter	R*	ΔR^2**
	IA6	Effective use of abilities and training	11.80	.51	.00
	IA9	Requirement to attain increased rank and responsibility	6.28	.51	.00
6 Critical Enlisted AFSC's (n = 228)	IA1	High salary	86.80	.53	.28
	IA3	Interesting and challenging job	21.00	.58	.06
	IA5	A 20 year retirement	13.49	.61	.04
	IA9	Requirement to attain increased rank and responsibility	11.39	.64	.03
	IA7	Extended separation from family or home	5.49	.65	.01

($p \leq .05$) for all outcomes listed
* R = multiple correlation coefficient
** ΔR^2 = amount of change in the coefficient of determination

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outcome 7, 'extended separation from family', or outcome 5, 'a 20 year retirement', whereas enlisted personnel definitely were.

The outcome of high salary had an insignificant amount of influence on officer personnel, but had a significant effect on enlisted personnel. In particular, for those enlisted personnel in critical skill areas it was by far the most powerful influence.

An outcome that was statistically insignificant for all four categories was outcome 2 (promotion based on job performance). Another outcome that was either weakly influential or statistically insignificant for all enlisted personnel (Category 5) and all officer personnel (Category 4) was outcome 9 (the requirement to attain increased rank and responsibility).

Discriminant Analysis. To perform an analysis using Air Force instrumentalities to discriminate between Career and Non-Career groups required the use of the SPSS Subprogram DISCRIMINANT. The method used was MAHAL and no prior probabilities were introduced. The partial F statistic determined the order of variable entry into the discriminant function and provided a measure of statistical significance.

The complete results of the discriminant analysis are given in Table XV . The results indicated those outcomes that were most influential in discriminating between

Career and Non-Career personnel (see p. 42 for definitions

of Career/Non-Career).

TABLE XV

Outcome Analysis/Discriminant

Category	Variable	Associated Outcome	F to enter
1 Pilots & Navigators (n = 41)	IA6	Effective use of abilities and training	8.46
4 All officers (n = 147)	IA6	Effective use of abilities and training	11.31
	IA8	Favorable attitude: spouse/family	14.12
5 All enlisted (n = 980)	IA3	Interesting & challenging job	13.07
	IA1	High salary	37.20
	IA5	20 year retirement	45.58
	IA8	Favorable attitude: spouse/family	34.04
	IA7	Extended separation from family or home	27.26
	IA6	Effective use of abilities and training	5.88
6 Critical Enlisted AFSC's (n = 82)	IA1	High salary	49.35
	IA9	Requirement to attain increased rank and responsibility	9.18
	IA7	Extended separation from family or home	5.22

$(p \leq .05)$ for all variables listed

Comparison of the regression results of Table XIV

with the discriminant results of Table XV reveals several

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similarities. For example, outcome 6 (effective use of abilities and training), highly influential for both officer categories in the regression analysis, was also a strong discriminator between Career and Non-Career personnel for the same two categories. The outcome of high salary, the most influential outcome in the regression analysis for Category 6 personnel, was also the most powerful discriminator for Category 6 personnel. For Category 5 personnel, the top five outcomes remained the same, only in a different order precedence from the regression analysis.

The main differences noted between the two types of analysis results involved statistical significance. Generally, there were fewer statistically significant outcomes per category for the discriminant analysis than for the regression analysis. The number of cases used in each analysis was partially responsible for that result. Overall, however, the results of both types of analysis were in fairly close agreement.

This concludes the presentation of results of all research analyses. The next chapter summarizes these findings, evaluates all hypotheses in light of the findings, draws inferences based on the findings, and offers recommendations for further study.

IV. Summary and Conclusions

Summary of Research

For the past several years the Air Force has found it increasingly difficult to recruit and retain the skilled personnel necessary to accomplish its stated mission. The retention problem in particular, has many senior military commanders highly disturbed. At the present time, the deepest concern is over the losses among pilots and navigators, scientists and engineers, physicians and certain enlisted personnel categories.

This research addressed the retention problem from the standpoint of the determination and interpretation of an individual's intent to either remain with or leave the Air Force. The primary purpose was to statistically model the stated career intent of Air Force personnel.

The four objectives used to guide the research included the determination of the power of three separate behavioral choice models in predicting the career intent of Air Force personnel and the determination of those outcomes which significantly influence the career intent of Air Force personnel. Five specific research hypotheses were tested:

1. The stated career intent of Air Force personnel can be significantly predicted by Vroom's valence model.

2. The Fishbein/Graen behavioral choice model exhibits more predictive power than Vroom's valence model.

3. Mobley's behavioral choice model exhibits more predictive power than either Vroom's valence model or the Fishbein/Graen model.

4. The predictive power of all three models does not vary significantly across officer and enlisted personnel.

5. There is no significant difference between pre-defined personnel categories in the order of outcome influence.

The Models. The first of the three models tested was Vroom's valence model. It was operationalized as the difference between the overall attractiveness of an Air Force career and the overall attractiveness of a civilian career. The second model tested, the Fishbein/Graen model, extended the Vroom model through the addition of a term to account for the influence of others on an individual's career intent decision. The separate term, labeled external influence, was the product of two components: (1) an individual's perceived expectations of others, and (2) the individual's motivation to comply with those expectations. The final model tested was called the Mobley model and was operationalized through the addition of a current job satisfaction term to the Fishbein/Graen model. The Hoppock job satisfaction index was used as a measure of the current satisfaction term.

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The Validations. The three models were validated
using two different approaches. Vroom's valence model was
first validated using bivariate correlation analysis and then
discriminant analysis. The Fishbein/Graen and Mobley models
were validated using multiple regression and discriminant
analysis.

The bivariate correlation analysis was used to deter-
mine the significance and degree of association between
Vroom's valence variable (VAL) and stated career intent.
Regression analysis was used to measure the significance of
and increase in predictive power obtained by adding nonexpec-
tancy terms to the valence model. Along somewhat different
lines, the objective of discriminant analysis was to be able
to distinguish between two groups of individuals: (1) those
individuals who intended to remain in the Air Force (Career
group) and (2) those individuals who intended to leave the
Air Force (Non-Career group). Personnel who were undecided
were not considered. Thus, in the discriminant analysis,
the career intent variable was transformed from an interval
scaled variable with five separate responses to a dichoto-
mous choice variable.

The Data. All analyses and findings were based on
data obtained from the 1980 U.S.A.F. Quality of Air Force
Life Active Duty Air Force Personnel Survey. The questions
in the survey applicable to this research were of the
following types: (1) demographic, (2) career intent, (3) job

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satisfaction, and (4) expectancy theory. A total of 5365 weighted cases were included in the research. Respondents ranged in grade from E-1 to O-6.

Personnel Categories Analyzed. Initially six separate personnel categories were to be analyzed. These categories included (1) pilots and navigators, (2) scientists and engineers, (3) physicians, (4) all officers, (5) all enlisted personnel, and (6) critical enlisted AFSC's. Due to an insufficient number of cases, scientists/engineers and physicians could not be analyzed as separate personnel categories. However, they were included in the analysis of the all officer category.

Year Group Limitations. The "golden Handcuff point" in the military is considered to be that year point at which the variance in career intent first becomes negligible and is probably due in large part to the existence of a twenty year retirement. The initial decision made in this research effort was that a determination of the golden handcuff point for the personnel in this study would provide an upper limit on year group analysis for the personnel categories. Because no accurate determination could be made of the golden hand-cuff point, a second decision was made to consider only those personnel who had a SERVICE index (total active federal military service and commitment) of less than ten years. An exception to this decision was made for Category 6 personnel.

Due to the special nature of the Category 6 personnel, any statistical analysis included only those individuals in their sixth to tenth years of service.

Summary of Results and Evaluation of Hypotheses

Model Validation Findings. Tables XVI and XVII summarize the predictive results of all three behavioral choice models. For all personnel categories tested, Vroom's valence model proved to be a significant predictor of career intent (regression) and classifier or personnel into Career and Non-Career groups (discriminant). The Fishbein/Graen model did well in predicting/classifying for the two general categories (all officers, all enlisted) but was not useful in predicting or classifying for special enlisted AFSC's. The Mobley model was overall the most powerful model of the three. However, the increase in predictive or classifying power attributable to the addition of the current satisfaction term was small except for the all officer category.

The Married Only Results. Results of the correlation/regression analyses for only married personnel indicated that consideration of the spouse's influence alone had the effect of enhancing the predictive power of the Fishbein/Graen model for personnel Categories 1, 4, and 5. The discriminant "married only" analyses indicated that consideration of the spouse's influence alone did improve the overall

1.0

1.1

1.25 1.4 1.6

2.8 2.5
3.2 2.2
3.6
4.0 2.0

1.8
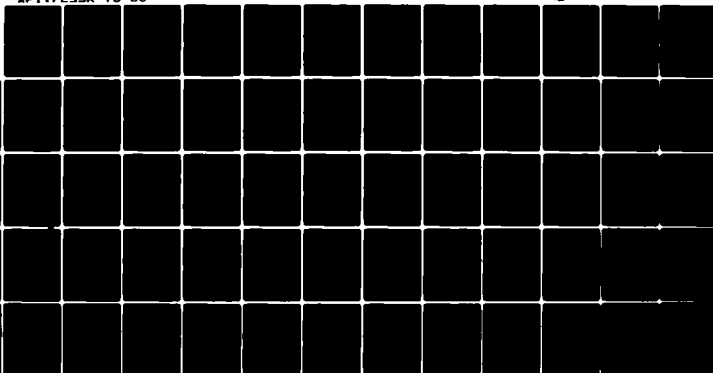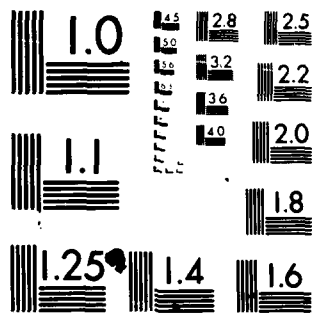
MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

TABLE XVI

Model Validations: Summary of Regression Findings

	Model					
	Vroom		Fishbein/Graen		Mobley	
Category	r	r^2	Mult R	ΔR^2	Mult R	ΔR^2
1	.47	.22	.53	.06	.56	.03
4	.41	.17	.48	.07	.55	.07
5	.36	.13	.41	.04	.46	.04
6	.51	.26	*		.54	.03

*Not statistically significant

TABLE XVII

Model Validations: Summary of Discriminant
Findings

	Model		
	Vroom	Fishbein/Graen	Mobley
Category	% Correctly Classified*	% Correctly Classified*	% Correctly Classified*
1	84.3	**	**
4	70.4	75.8	82.9
5	62.6	69.0	70.6
6	79.7	**	76.6

* Refers to overall correct classification
** Not statistically significant

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classifying power of the Fishbein/Graen model for Category 1 personnel but not for any others.

Hypotheses 1 to 3. Hypotheses 1 and 3 were supported in the correlation/regression analyses for every personnel category tested. Hypothesis 2 was well supported for every personnel category except Category 6. The Fishbein/Graen results for these personnel were statistically insignificant.

In the discriminant analyses, Hypothesis 1 was supported for every personnel category tested. Hypotheses 2 and 3 were supported for Category 4 and Category 5 personnel only. For Category 1 and Category 6 personnel, Vroom's valence model proved to be the most powerful model.

Hypothesis 4. For the regression results, two separate statistical methods were used to evaluate the hypothesis that the three models did not produce significantly different results for officer and enlisted personnel (see Appendix H, Table XXVII). The tests indicated that there were significant differences between officer and enlisted personnel in the predictive power of both the Fishbein/Graen and Mobley models. Therefore Hypothesis 4 was not supported by the regression results.

A χ^2 test was used with the discriminant results to evaluate Hypothesis 4 (see Appendix H, Table XXVIII). The tests indicated that for the Mobley model the classification results were statistically different for officer and enlisted

personnel. Therefore, Hypothesis 4 was not supported by the discriminant results either.

Outcome Results. In the regression analysis, there were between two to seven different outcomes that exerted significant influence on the career intent decision of each personnel category. Overall, the three outcomes that appeared most influential were (1) an interesting and challenging job, (2) effective use of abilities and training, and (3) a favorable attitude on the part of the spouse/ family regarding an Air Force career.

In the discriminant analysis there were four outcomes overall that seemed to be the most effective in separating career personnel from noncareer personnel. They included: (1) effective use of abilities and training, (2) high salary, (3) a favorable attitude on the part of the spouse/family regarding an Air Force career, and (4) an interesting and challenging job.

Hypothesis 5. The author knew of no statistical procedure that could be used to test the hypothesis that there is no significant difference between personnel cate- gories in the order of outcome influence (for either regres- sion or discriminant results). The method that was therefore used involved a pairwise comparison of categories to evaluate relative orderings of outcomes. Direct observation of the results provided by Tables XIV and XV (Chapter III) was sufficient indication that there was a difference in the

priority of outcomes for the four personnel categories. For
this reason, Hypothesis 5 was not supported.

Discussion of the Results

All three models tested in this research demonstrated
the ability to significantly predict the career intent of
various categories of Air Force personnel. Although from a
purely mathematical standpoint the Mobley model is the most
powerful model overall, it should be realized that practical
considerations may be as or more important than statistical
results.

It is the opinion of this author, based on practical
as well as statistical considerations, that there is no one
overall best model for predicting the career intent of Air
Force personnel. Model performance appears to be largely
sample related, with specific models performing particularly
well for certain personnel groups and not as well for others.

Although the proposition that: 'the spouse's influ-
ence is the dominant factor in the external influence term'
was not tested in this research, it was evident to some
degree in the "married only" regression results. However,
the results of the discriminant analyses did not provide the
same indications. Similar conclusions for both regression
and discriminant analyses could be drawn from the "married
only" results involving Category 1 and Category 6 personnel.
For pilots and navigators, the indication was that the

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spouse's influence had a definite effect on the career intent decision. It also appeared that the spouse's influence had virtually no effect on the career intent decision of "critical" enlisted personnel.

Findings of the outcome analyses for Category 1 and Category 6 personnel merit special attention. According to the results, pilots and navigators are significantly influenced in their career intent decisions by only two outcomes: (1) effective use of abilities and training, and (2) a favorable attitude on the part of the spouse/family regarding an Air Force career.

In contrast, pay was by far the strongest influence on the career intent decision of Category 6 personnel. The outcomes 'effective use of abilities' and 'a favorable attitude on the part of the spouse/family regarding an Air Force career' were insignificant as far as these enlisted personnel's career intent decision was concerned. A possible explanation for these results (Category 6) may be the perception of a readily available alternative that would provide significantly higher pay combined with the perception that Air Force pay is so low that it is causing economic hardship.

It was also notable that officers and enlisted personnel in general could be differentiated on the basis of outcomes. The three outcomes that appeared to best separate the all officer and all enlisted categories were (1) high

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salary, (2) a 20 year retirement, and (3) extended separation from family/home. Statistical tests (see Appendix I, Table XXIX) indicated that a significant difference in correlation coefficients (r) for these three outcomes (instrumentalities) with stated career intent did exist between the officer and enlisted categories. The implication is that enlisted personnel as a whole are more concerned with the material benefits/consequences of military life than officers are. A probable reason as to why was indicated by a survey respondent who included in his additional comments the statement "When an E-8 has to have two incomes to live reasonably well, and depending on the area, to survive—something is wrong!!"

Recommendations for Further Study

Even though the results of the three behavioral choice models tested in this research were significant and supportive, there is still a considerable amount of criterion variance left to explain. If no fault can be found in the basic theory, then further refinements in the measures and methodology may be needed to improve predictability.

The outcomes associated with the expectancy theory questions contained in the survey (Appendix A) were developed from research involving the career intent of officer personnel. This research operationalized Vroom's valence term (VAL) to predict the career intent of both officer and enlisted

personnel using those same outcomes. In future research, the development of separate outcomes for enlisted personnel could improve the predictive power of Vroom's model for those personnel.

The criterion variable used in this study, career intent, was measured on a five point scale. Previous studies have used either four or seven point scales (Alley and Gould, 1975; Lewis, 1978; Mosbach and Scanlan, 1979). There is a definite need to determine if the scale size and/or phrasing of responses has any effect on predictive power. If for no other reason, standardization of the criterion variable would justify research in this area.

One major shortcoming of many previous studies involved their lack of cross-validated results. This study overcame that problem by using discriminant analysis to obtain cross-validated classification results. In addition to the cross-validated results, another useful feature of discriminant analysis was the presentation of results as percentage correctly/incorrectly classified. This made them easier to comprehend and more amenable to statistical testing. However, this author would not recommend using discriminant analysis as the primary methodology unless the definitions of the groups to be discriminated were well founded and enough data were available for cross-validation.

In separate areas of behavioral research, recent work by Rutley (1980) and Tomlin (1980) has demonstrated the value

of longitudinal analysis in understanding dynamic processes. Mobley, et al., indicated that "understanding the turnover process will require longitudinal as well as multivariate research (1979:520)." Career intent is significantly correlated with turnover and is also dynamic in nature. Longitudinal research in this area, including repeated measures of independent variables, may provide valuable insight into the changing trends and relationships of the factors relevant to the career intent of Air Force personnel.

APPENDICES

APPENDIX A

SURVEY QUESTIONNAIRE

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UNITED STATES AIR FORCE

QUALITY OF AIR FORCE LIFE

ACTIVE DUTY

AIR FORCE PERSONNEL SURVEY
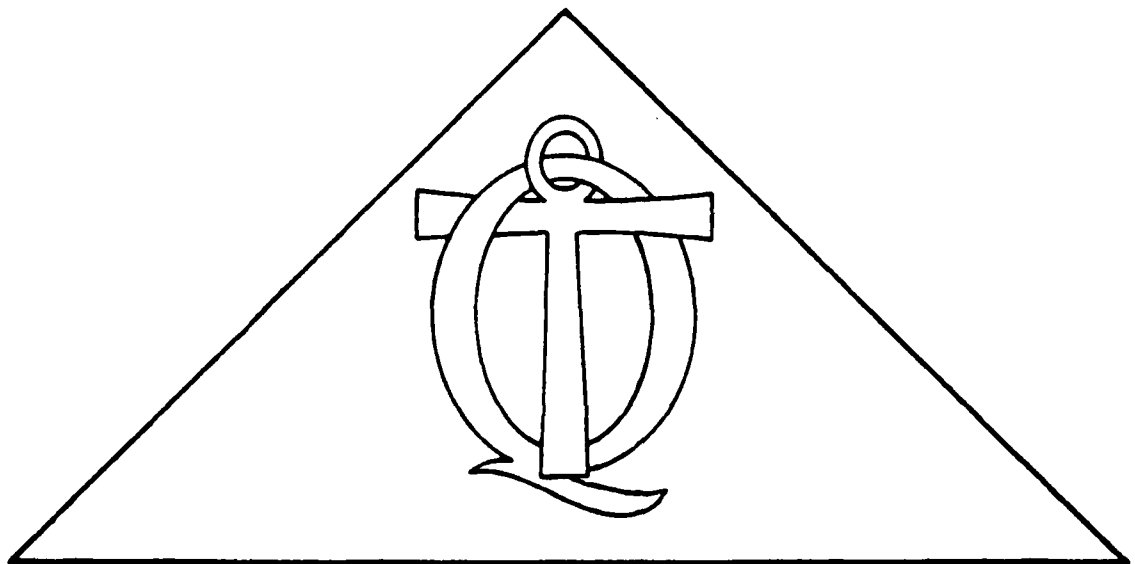
THIRD EDITION

USAF SCN 80-24

1.   (Please mark the answer sheet with code described above.)

2.   (Please mark the answer sheet with code described above.)

3.   What is your present active duty grade?

A.	Colonel	I.	Senior Master Sergeant
B.	Lieutenant Colonel	J.	Master Sergeant
C.	Major	K.	Technical Sergeant
D.	Captain	L.	Staff Sergeant
E.	First Lieutenant	M.	Sergeant
F.	Second Lieutenant	N.	Senior Airman
G.	Warrant Officer	O.	Airman First Class
H.	Chief Master Sergeant	P.	Airman
		Q.	Airman Basic

4.   What is your command of assignment (the command that maintains your personnel records)?

A.	Alaskan Air Command	M.	Air Force Data Automation Agency
B.	U.S. Air Force Academy	N.	Military Airlift Command
C.	U.S. Air Forces in Europe	O.	Pacific Air Forces
D.	Air Force Accounting and Finance Center	P.	Strategic Air Command
		Q.	Tactical Air Command
E.	Air Force Logistics Command	R.	Electronic Security Command
F.	Air Force Systems Command	S.	Air Force Military Personnel Center
G.	Air Reserve Personnel Center	T.	Air Force Inspection and Safety Center
H.	Air Training Command		
I.	Air Universtiy	U.	Air Force Audit Agency
J.	Headquarters Air Force Reserve	V.	Air Force Office of Special Investigations
K.	Headquarters USAF		
L.	Air Force Communications Command	W.	Other

5.   How much total active federal military service have you completed?

A.	Less than 1 year	O.	14 years but less than 15
B.	1 year but less than 2	P.	15 years but less than 16
C.	2 years but less than 3	Q.	16 years but less than 17
D.	3 years but less than 4	R.	17 years but less than 18
E.	4 years but less than 5	S.	18 years but less than 19
F.	5 years but less than 6	T.	19 years but less than 20
G.	6 years but less than 7	U.	20 years but less than 21
H.	7 years but less than 8	V.	21 years but less than 22
I.	8 years but less than 9	W.	22 years but less than 23
J.	9 years but less than 10	X.	23 years but less than 24
K.	10 years but less than 11	Y.	24 years but less than 25
L.	11 years but less than 12	Z.	25 years but less than 26
M.	12 years but less than 13	1.	26 years but less than 27
N.	13 years but less than 14	2.	27 years or more

6. What is your highest level of education now (include accepted GED credits)?

    A. Some high school (did not graduate)
    B. High school graduate (no college)
    C. Trade or technical school (no college)
    D. Some college, but less than one year
    E. One year college, but less than two
    F. Two years college, but less than three (including two-year associate degree)
    G. Three years or more college, no degree
    H. Registered nurse diploma program
    I. College degree (BS, BA, or equivalent, except LL.B)
    J. Graduate work beyond bachelor degree (no master's degree)
    K. Master's degree
    L. Postgraduate work beyond master's degree
    M. Doctorate degree (includes LL.B, J.D., D.D.S., M.D., and D.V.M.)

7. What is your marital status?

    A. Married and spouse is not a member of a military service
    B. Married and spouse is a member of a military service
    C. Never been married
    D. Divorced and not remarried
    E. Legally separated
    F. Widower/widow

8. What was the source of your commission?

    A. Not applicable, I am enlisted
    B. OTS
    C. OCS
    D. ROTC
    E. Aviation Cadet
    F. Navigation Cadet
    G. USAFA
    H. USMA
    I. USNA
    J. Other

9. Which one of the following do your consider yourself?

    A. Black
    B. Spanish Speaking Origin (Cuban, Puerto Rican, Mexican American, Spanish Descent)
    C. American Indian
    D. Asian Origin (Chinese, Japanese, Korean, Filipino, or Asian American)
    E. White (Other than Spanish Speaking Origin)
    F. Other

10. What is your sex?

    A. Male
    B. Female

11. Which one of the following best describes your attitude toward making the Air Force a career?

    A.   Definitely intend to make the Air Force a career
    B.   Most likely will make the Air Force a career
    C.   Undecided
    D.   Most likely will not make the Air Force a career
    E.   Definitely do not intend to make the Air Force a career

12. At the time you came on active duty in the Air Force, which one of the following best describes the attitude you had toward making the Air Force a career?

    A.   Definitely intended to make the Air Force a career
    B.   Was inclined toward making the Air Force a career
    C.   Was undecided
    D.   Was not inclined toward an Air Force career
    E.   Definitely did not intend to make the Air Force a career

13. Which of the following best describes your attitude toward retirement at 20 years of military service?

    A.   Not applicable have over 20 years service
    B.   Definitely will remain on active duty beyond 20 years
    C.   Probably will remain on active duty beyond 20 years
    D.   Undecided
    E.   Probably will retire at or soon after reaching 20 years
    F.   Definitely will retire at or soon after reaching 20 years
    G.   I will probably leave the service before 20 years of service

14. When does your active duty service commitment expire?

    A.   No active duty service commitment
    B.   In less than 1 year
    C.   In greater than 1 year but less than 2 years
    D.   In greater than 2 years but less than 3 years
    E.   In greater than 3 years

15. How often do you think about quitting the Air Force?

    A.   Never
    B.   Rarely
    C.   Sometimes
    D.   Often
    E.   Constantly

16. Enter the code for the first digit of your duty Air Force Specialty Code (AFSC) opposite item 16 on your answer sheet.

    A.   0   F.   5
    B.   1   G.   6
    C.   2   H.   7
    D.   3   I.   8
    E.   4   J.   9

17. Enter the code for the second digit of your duty AFSC opposite item 17 on your answer sheet.

    A.   0   F.   5
    B.   1   G.   6
    C.   2   H.   7
    D.   3   I.   8
    E.   4   J.   9

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18. Enter the code for the third digit of your duty AFSC opposite item 18 on your answer sheet.

A. 0   F. 5
B. 1   G. 6
C. 2   H. 7
D. 3   I. 8
E. 4   J. 9

19. What is your current primary aeronautical rating?

A. Pilot
B. Navigator
C. Flight Surgeon
D. Other aeronautical rating
E. Nonrated

The following questions address the subjects of economic standard and security. Please rate your degree of satisfaction with them based on the descriptions shown below.

ECONOMIC STANDARD: Satisfaction of basic human needs such as food, shelter, clothing; the ability to maintain an acceptable standard of living.

20. To what degree are you satisfied with the ECONOMIC STANDARD aspects of your life: (Select one of the seven points on the satisfaction scale.)

         A . . . B . . . C . . . D . . . E . . . F . . . G

    Highly   Neutral   Highly
    Dissatisfied   Satisfied

21. Most of the time my military service pay is adequate to cover the basic expenses with at least a little left over.

A. Strongly disagree
B. Disagree
C. Slightly disagree
D. Neither agree or disagree
E. Slightly agree
F. Agree
G. Strongly agree

22. In the future I believe my military income will provide me with an acceptable standard of living

A. Strongly disagree
B. Disagree
C. Slightly disagree
D. Neither agree or disagree
E. Slightly agree
F. Agree
G. Strongly agree

23. How do you see your future military pay keeping up with inflation as compared to the future pay of nongovernment civilians?

A. Military much better able to keep up with inflation
B. Military somewhat better able to keep up with inflation
C. No difference between military and nongovernment civilians
D. Nongovernment civilians somewhat better able to keep up with inflation
E. Nongovernment civilians much better able to keep up with inflation

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24. In comparison to two years ago, how has your overall financial condition changed (consider savings, investments, debts, possessions)?

    A. I am in much better condition
    B. I am in somewhat better condition
    C. I am in about the same condition
    D. I am in somewhat worse condition
    E. I am in much worse condition

25. The future financial security of myself and my family is of daily concern to me.

    A. Strongly disagree
    B. Disagree
    C. Slightly disagree
    D. Neither agree nor disagree
    E. Slightly agree
    F. Agree
    G. Strongly agree

26. Would you recommend Air Force Service to a young man/woman?

    A. Am inclined to recommend AF Service
    B. Am slightly inclined to recommend AF Service
    C. Would not recommend AF Service
    D. Don't know

27. Which of the following best describes the impact of inflation on you over the last two years?

    A. Inflation has had relatively little effect on me
    B. Have just been able to make ends meet
    C. Have had to withdraw from my savings to make ends meet
    D. Have gone deeper in debt to make ends meet
    E. Both C and D above
    F. None of the above

28. Do you or your dependents, if any, currently receive federal, state, county (public) assistance?

    A. No
    B. Yes, food stamps only
    C. Yes, monetary payment only
    D. Yes, food stamps and monetary payment

ECONOMIC SECURITY: Guaranteed employment; retirement benefits; insurance; protection for self and family.

29. To what degree are you satisfied with the ECONOMIC SECURITY aspects of your life?

        A . . . B . . . C . . . D . . . E . . . F . . . G

     Highly   Neutral   Highly
     Dissatisfied   Satisfied

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30. Do you hold a second job?

    A.   No

    Yes, I work (choose one answer below)

    B.   1-5 hours per week
    C.   6-10 hours per week
    D.   11-20 hours per week
    E.   21-30 hours per week
    F.   Over 30 hours per week

31. Does your spouse work?

    A.   Not applicable, I am not married or I am legally separated

    I am married and my spouse

    B.   Resides with me, and has a paying job
    C.   Resides with me, and does not work
    D.   Does not reside with me, and has a paying job
    E.   Does not reside with me, and does not work

32. The main reason that I have a second job, and/or that my spouse works is that
    we have to in order to make ends meet.

    A.   Not applicable
    B.   Strongly disagree
    C.   Disagree
    D.   Undecided
    E.   Agree
    F.   Strongly agree

33. How do you think your military pay (including all allowances and fringe
    benefits) compares with pay in civilian employment for similar work?

    A.   Military pay is far higher than civilian
    B.   Military pay is somewhat higher than civilian
    C.   Both about equal
    D.   Military pay is somewhat less than civilian
    E.   Military pay is far less than civilian

34. If I left the Air Force tomorrow, I think it would be very difficult to get a
    job in private industry with pay, benefits, duties, and responsibilities
    comparable with those of my present job.

    A.   Strongly disagree
    B.   Disagree
    C.   Undecided
    D.   Agree
    E.   Strongly agree

35. An Air Force base is a desirable place to live.

    A.   Strongly disagree
    B.   Disagree
    C.   Undecided
    D.   Agree
    E.   Strongly agree

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Please rate the degree of satisfaction with your free time based on the following description:

FREE TIME: Amount, use, and scheduling of free time alone, or in voluntary associations with others; variety of activities engaged in.

36. To what degree are you satisfied with the FREE TIME aspects of your life?

    A . . . B . . . C . . . D . . . E . . . F . . . G

    Highly   Neutral   Highly
    Dissatisfied   Satisfied

Please rate the degree of satisfaction with your work based on the following description:

WORK: Doing work that is personally meaningful and important; pride in my work; job satisfaction; recognition for my efforts and my accomplishments on the job.

37. To what degree are you satisfied with the WORK aspects of your life?

    A . . . B . . . C . . . D . . . E . . . F . . . G

    Highly   Neutral   Highly
    Dissatisfied   Satisfied

38. To what extent are you satisfied with the relationship you have with your peers?

    A.   Highly dissatisfied
    B.   Dissatisified
    C.   Neutral
    D.   Satisfied
    E.   Highly satisfied

39. To what extent are you satisfied with the relationship you have with subordinates?

    A.   Highly dissatisfied
    B.   Dissatified
    C.   Neutral
    D.   Satisfied
    E.   Highly satisfied
    F.   Not applicable

40. On most work days, how often does time seem to drag for you?

    A.   About half the day or more
    B.   About 1/3 of the day
    C.   About 1/4 of the day
    D.   About 1/8 of the day
    E.   Time never seems to drag

41. Some people are completely involved in the job -- they are absorbed in it night and day. For others, their job is simply one of several interests. How involved do you feel in your job?

    A.   Very little; my other interests are more absorbing
    B.   Slightly involved
    C.   Moderately involved; my job and my other interests are equally absorbing to me
    D.   Strongly involved
    E.   Very strongly involved; my work is the most absorbing interest in my life

42. How often do you do extra work for your job which is not really required of you?

   A. Almost every day
   B. Several times a week
   C. About once a week
   D. Once every few weeks
   E. About once a month or less

43. Would you say you work harder, less hard, or about the same as other people doing your type of work in your work organization?

   A. Much harder than most others
   B. A little harder than most others
   C. About the same as most others
   D. A little less hard than most others
   E. Much less hard than most others

44. Which one of the following shows how much of the time you feel satisfied with your job?

   A. All the time
   B. Most of the time
   C. A good deal of the time
   D. About half of the time
   E. Occasionally
   F. Seldom
   G. Never

45. Choose one of the following statements which best tells how well you like your job.

   A. I hate it
   B. I dislike it
   C. I don't like it
   D. I am indifferent to it
   E. I like it
   F. I am enthusiastic about it
   G. I love it

46. Which one of the following best tells how you feel about changing your job?

   A. I would quit this job at once if I could
   B. I would take almost any other job in which I could earn as much as I am earning now
   C. I would like to change both my job and my occupation
   D. I would like to exchange my present job for another one
   E. I am not eager to change my job, but I would do so if I could get a better job
   F. I cannot think of any jobs for which I would exchange
   G. I would not exchange my job for any other

47. Which one of the following shows how you think you compare with other people?

   A. No one likes this job better than I like mine
   B. I like job much better than most people like theirs
   C. I like my job better than most people like theirs
   D. I like my job about as well as most people like theirs
   E. I dislike my job more than most people dislike theirs
   F. I dislike my job much more than most people dislike theirs
   G. No one dislikes this job more than I dislike mine

99

48. How do you evaluate your present Air Force job?

    A. Not at all challenging
    B. Not very challenging
    C. Somewhat challenging
    D. Challenging
    E. Very challenging

49. Do you think your present job is preparing you to assume future positions of greater responsibility?

    A. Definitely not
    B. Probably not
    C. Undecided
    D. Probably yes
    E. Definitely yes

50. What is your estimate of the average number of hours per week you spend on the job?

    A. Less than 30 hours
    B. 31-35
    C. 36-40
    D. 41-45
    E. 46-50
    F. 51-55
    G. 56-60
    H. More than 60

51. The Air Force requires me to participate in too many activities that are not related to my job.

    A. Strongly disagree
    B. Disagree
    C. Undecided
    D. Agree
    E. Strongly agree

52. Air Force members should take more interest in mission accomplishment and less interest in their personal concerns.

    A. Strongly disagree
    B. Disagree
    C. Inclined to disagree
    D. Undecided
    E. Inclined to agree
    F. Agree
    G. Strongly agree

53. To what extent do you have trust in senior Air Force decision makers?

    A. None at all
    B. Very little extent
    C. Some
    D. Great extent
    E. Undecided

54. To what extent do you have confidence in senior Air Force decision makers?

    A. None at all
    B. Very little extent
    C. Some
    D. Great extent
    E. Undecided

55. The AF is a good organization to work for today.

    A.   Strongly disagree
    B.   Disagree
    C.   Slightly disagree
    D.   Neither agree nor disagree
    E.   Slightly agree
    F.   Agree
    G.   Strongly agree

56. Five years ago, the AF was a good organization in which to work.

    A.   Strongly disagree
    B.   Disagree
    C.   Slightly disagree
    D.   Neither agree nor disagree
    E.   Slightly agree
    F.   Agree
    G.   Strongly agree
    H.   Not applicable, I have served less than five years

57. Considering just the trends you observe today in the Air Force, five years from now, the AF will be a good place to work.

    A.   Strongly disagree
    B.   Disagree
    C.   Slightly disagree
    D.   Neither agree nor disagree
    E.   Slightly agree
    F.   Agree
    G.   Strongly agree

58. I wish that Air Force members had a genuine concern for national security.

    A.   Strongly disagree
    B.   Disagree
    C.   Inclined to disagree
    D.   Undecided
    E.   Inclined to agree
    F.   Agree
    G.   Strongly agree

59. Select the one factor which TODAY would influence you the most to make the Air Force a career.

    A.   Opportunity for training and education in the Air Force
    B.   My Air Force job (challenging, provides sense of accomplishment, etc)
    C.   Pay and allowances
    D.   Housing
    E.   Promotion system and opportunity
    F.   Fringe benefits (medical and dental care, BX, commissary, etc)
    G.   Leadership and supervision in the Air Force
    H.   Travel and new experiences
    I.   Have "say" in future assignments
    J.   Security of Air Force life
    K.   Air Force policies and procedures
    L.   The retirement system
    M.   Opportunity to serve my country
    N.   Some other factor
    O.   I do not intend to make the Air Force a career

60. Select the one factor which TODAY would influence you the most NOT to make the Air Force a career.

A. Family separation
B. My Air Force job (little challenge, little sense of accomplishment, etc)
C. Pay and allowances
D. Housing
E. Promotion selection system
F. Promotion opportunity
G. Fringe benefits (medical and dental care, BX, commissary, etc)
H. Leadership and supervision in the Air Force
I. Frequent PCS moves
J. Little "say" in future assignments
K. Insecurity of Air Force life
L. The people
M. Air Force policies and procedures
N. Some other factor
O. Nothing unfavorable

This section consists of a list of 9 Career-related Outcomes. Consider each outcome separately and decide how desirable it would be to attain that outcome as a result of your career. In this section, please consider the outcomes independently of any specific career.

Indicate your desirability of attaining each outcome by selecting the appropriate letter on the scale following the outcome. The scale ranges from EXTREMELY UNDESIRABLE to EXTREMELY DESIRABLE with the midpoint (F) indicating that you are INDIFFERENT to the outcome. To be specific, DESIRABLE is taken to mean how much you would like to experience an outcome, and UNDESIRABLE means how much you would dislike experiencing it.

61. Earning a high salary.

A . . . B . . . C . . . D . . . E . . . F . . . G . . . H . . . I . . . J . . . K

EXTREMELY   INDIFFERENT   EXTREMELY
UNDESIRABLE   DESIRABLE

62. Promotions based on your job performance.

A . . . B . . . C . . . D . . . E . . . F . . . G . . . H . . . I . . . J . . . K

EXTREMELY   INDIFFERENT   EXTREMELY
UNDESIRABLE   DESIRABLE

63. An interesting and challenging job.

A . . . B . . . C . . . D . . . E . . . F . . . G . . . H . . . I . . . J . . . K

EXTREMELY   INDIFFERENT   EXTREMELY
UNDESIRABLE   DESIRABLE

64. A set of rules and regulations governing personal behavior in such areas as dress and appearance and associations with other members of the organization.

A . . . B . . . C . . . D . . . E . . . F . . . G . . . H . . . I . . . J . . . K

EXTREMELY   INDIFFERENT   EXTREMELY
UNDESIRABLE   DESIRABLE

102

65. A 20-year retirement program with a monthly pension of 40% of your total
    salary (This would be equivalent to approximately 50% of your base pay in the
    Air Force. By expressing it this way, comparisons between military and
    civilian pensions can be made.)

A . . . B . . . C . . . D . . . E . . . F . . . G . . . H . . . I . . . J . . . K

EXTREMELY   INDIFFERENT   EXTREMELY
UNDESIRABLE   DESIRABLE

66. Effective use of your abilities and training by your organization.

A . . . B . . . C . . . D . . . E . . . F . . . G . . . H . . . I . . . J . . . K

EXTREMELY   INDIFFERENT   EXTREMELY
UNDESIRABLE   DESIRABLE

67. Extended separation from your immediate family (if married) or from home and
    friends (if unmarried).

A . . . B . . . C . . . D . . . E . . . F . . . G . . . H . . . I . . . J . . . K

EXTREMELY   INDIFFERENT   EXTREMELY
UNDESIRABLE   DESIRABLE

68. A favorable attitude on the part of your spouse (if married) or immediate
    family (if unmarried) regarding your career.

A . . . B . . . C . . . D . . . E . . . F . . . G . . . H . . . I . . . J . . . K

EXTREMELY   INDIFFERENT   EXTREMELY
UNDESIRABLE   DESIRABLE

69. The requirement to attain positions of increased rank and responsibility in
    order to remain a member of your organization.

A . . . B . . . C . . . D . . . E . . . F . . . G . . . H . . . I . . . J . . . K

EXTREMELY   INDIFFERENT   EXTREMELY
UNDESIRABLE   DESIRABLE

The following statements concern the degree to which you perceive the 9 Career-
related Outcomes are associated with (i.e., provided by) an Air Force career.

Following each statement, indicate one of the 11 responses on the scale ranging
from COMPLETELY DISAGREE to COMPLETELY AGREE that best describes the extent of
your agreement or disagreement with the statement. The midpoint of the scale (F)
indicates that you are UNDECIDED or have NO OPINION about the correctness of the
statement and its implied association.

70. An Air Force career will provide you with a high salary.

A . . . B . . . C . . . D . . . E . . . F . . . G . . . H . . . I . . . J . . . K

COMPLETELY   UNDECIDED   COMPLETELY
DISAGREE   AGREE

71. Promotions are based on job performance in the Air Force.

A . . . B . . . C . . . D . . . E . . . F . . . G . . . H . . . I . . . J . . . K

COMPLETELY   UNDECIDED   COMPLETELY
DISAGREE   AGREE

103

72. A career in the Air Force provides interesting and challenging jobs.

A . . . B . . . C . . . D . . . E . . . F . . . G . . . H . . . I . . . J . . . K

COMPLETELY   UNDECIDED   COMPLETELY
DISAGREE   AGREE

73. In the Air Force, you will be subject to a set of rules and regulations
    governing personal behavior in areas such as dress and appearance and
    associations with other members of the organization.

A . . . B . . . C . . . D . . . E . . . F . . . G . . . H . . . I . . . J . . . K

COMPLETELY   UNDECIDED   COMPLETELY
DISAGREE   AGREE

74. You will be able to retire from the Air Force after 20 years service with a
    monthly pension of 40% of your total salary (equivalent to approximately 50%
    of your base pay).

A . . . B . . . C . . . D . . . E . . . F . . . G . . . H . . . I . . . J . . . K

COMPLETELY   UNDECIDED   COMPLETELY
DISAGREE   AGREE

75. Effective use will be made of your abilities and training throughout an Air
    Force career.

A . . . B . . . C . . . D . . . E . . . F . . . G . . . H . . . I . . . J . . . K

COMPLETELY   UNDECIDED   COMPLETELY
DISAGREE   AGREE

76. Extended separation from your immediate family (if married) or from home and
    friends (if unmarried) is one aspect of an Air Force career.

A . . . B . . . C . . . D . . . E . . . F . . . G . . . H . . . I . . . J . . . K

COMPLETELY   UNDECIDED   COMPLETELY
DISAGREE   AGREE

77. Your spouse (if married) or your immediate family (if unmarried) has a
    favorable attitude regarding you having an Air Force career.

A . . . B . . . C . . . D . . . E . . . F . . . G . . . H . . . I . . . J . . . K

COMPLETELY   UNDECIDED   COMPLETELY
DISAGREE   AGREE

78. An Air Force career will require you to attain positions of increased rank
    and responsibility in order to remain a member of your organization.

A . . . B . . . C . . . D . . . E . . . F . . . G . . . H . . . I . . . J . . . K

COMPLETELY   UNDECIDED   COMPLETELY
DISAGREE   AGREE

The following statements concern the degree to which you perceive the 9 Career-related Outcomes are associated with (i.e., provided by) a civilian career.

Following each statement, please indicate one of the 11 responses on the scale ranging from COMPLETELY DISAGREE to COMPLETELY AGREE that best describes the extent of your agreement or disagreement with the statement. The midpoint of the scale (F) indicates that you are UNDECIDED or have NO OPINION about the correctness of the statement and its implied association.

79. A civilian career will provide you with a high salary.

A . . . B . . . C . . . D . . . E . . . F . . . G . . . H . . . I . . . J . . . K

COMPLETELY   UNDECIDED   COMPLETELY
DISAGREE   AGREE

80. Promotions are based on job performance in a civilian career.

A . . . B . . . C . . . D . . . E . . . F . . . G . . . H . . . I . . . J . . . K

COMPLETELY   UNDECIDED   COMPLETELY
DISAGREE   AGREE

81. A career as a civilian provides interesting and challenging jobs.

A . . . B . . . C . . . D . . . E . . . F . . . G . . . H . . . I . . . J . . . K

COMPLETELY   UNDECIDED   COMPLETELY
DISAGREE   AGREE

82. In a civilian career you will be subject to a set of rules and regulations governing personal behavior in areas such as dress and appearance and associations with other members of the organization.

A . . . B . . . C . . . D . . . E . . . F . . . G . . . H . . . I . . . J . . . K

COMPLETELY   UNDECIDED   COMPLETELY
DISAGREE   AGREE

83. In a civilian career you will have a retirement program that offers a 20-year retirement with a monthly pension of 40% of your total salary.

A . . . B . . . C . . . D . . . E . . . F . . . G . . . H . . . I . . . J . . . K

COMPLETELY   UNDECIDED   COMPLETELY
DISAGREE   AGREE

84. Effective use will be made of your abilities and training throughout a civilian career.

A . . . B . . . C . . . D . . . E . . . F . . . G . . . H . . . I . . . J . . . K

COMPLETELY   UNDECIDED   COMPLETELY
DISAGREE   AGREE

85. Extended separation from your immediate family (if married) or from home and friends (if unmarried) is one aspect of a civilian career.

A . . . B . . . C . . . D . . . E . . . F . . . G . . . H . . . I . . . J . . . K

COMPLETELY   UNDECIDED   COMPLETELY
DISAGREE   AGREE

86. Your spouse (if married) or your immediate family (if unmarried) has a favorable attitude regarding you having a civilian career.

A . . . B . . . C . . . D . . . E . . . F . . . G . . . H . . . I . . . J . . . K

COMPLETELY   UNDECIDED   COMPLETELY
DISAGREE   AGREE

87. A civilian career will require you to attain positions of increased rank and responsibility in order to remain a member of your organization.

A . . . B . . . C . . . D . . . E . . . F . . . G . . . H . . . I . . . J . . . K

COMPLETELY   UNDECIDED   COMPLETELY
DISAGREE   AGREE

88. What are your intentions regarding staying in or transferring from your present organization for reasons other than normal PCS?

    A . . . . . B . . . . C . . . . D . . . . E . . . . F . . . . G

I definitely I most   I am   I am   I am   I most   I definitely want
want to   likely   leaning   undecided leaning   likely   to stay
transfer   will try   toward   toward   will try
              to trans-   trans-   staying   to stay
              fer   ferring

Please rate your degree of satisfaction with leadership/supervision based on the following description:

LEADERSHIP/SUPERVISION: My supervisor has my interests and that of the Air Force at heart; keeps me informed; approachable and helpful rather than critical; good knowledge of the job.

89. To what degree are you satisfied with the LEADERSHIP/SUPERVISION aspects of your life?

        A . . . B . . . C . . . D . . . E . . . F . . . G

      HIGHLY   NEUTRAL   HIGHLY
   DISSATISIFIED   SATISFIED

90. To what degree are you satisfied with the relationship you have with your superiors?

    A.   Highly dissatified
    B.   Dissatisfied
    C.   Neutral
    D.   Satisfied
    E.   Highly satisfied

91. What is your opinion of the leadership ability of your immediate supervisor?

    A.   Excellent
    B.   Above average
    C.   Average
    D.   Below average
    E.   Poor

92. What is your opinion of the quality of leadership in the Air Force?

A. Excellent
B. Above average
C. Average
D. Below average
E. Poor

93. What is your opinion of discipline in today's Air Force?

A. Too strict
B. Somewhat strict
C. About right
D. Somewhat lenient
E. Too lenient

94. More supervision of member performance and behavior is needed at lower levels within the Air Force.

A . . . . . . B . . . . C . . . . D . . . . . . E

STRONGLY   DISAGREE   UNDECIDED   AGREE   STRONGLY
DISAGREE   AGREE

95. How often do you and your supervisor get together to set your personal performance objectives?

A. Never
B. Seldom
C. Sometimes
D. Frequently
E. Very frequently

96. How often are you given feedback from your supervisor about your job performance?

A. Never
B. Seldom
C. Sometimes
D. Frequently
E. Very frequently

97. How often does your immediate supervisor give you recognition for a job well done?

A. Never
B. Seldom
C. Sometimes
D. Frequently
E. Always

98. How often are you given the freedom you need to do your job well?

A. Never
B. Seldom
C. Sometimes
D. Often
E. Always

Please rate your degree of satisfaction with equity based on the following description:

EQUITY: Equal opportunity in the Air Force; a fair chance at promotion; an even break in my job/assignment selections.

99. To what degree are you satisfied with the EQUITY aspects of your life?

A . . . B . . . C . . . D . . . E . . . F . . . G

HIGHLY DISSATISFIED	NEUTRAL	HIGHLY SATISFIED

100. An individual can get more of an even break in civilian life than in the Air Force.

A. Strongly disagree
B. Disagree
C. Undecided
D. Agree
E. Strongly agree

101. The Air Force promotion system is effective (i.e., the best qualified people are generally selected for promotion).

A. Strongly disagree
B. Disagree
C. Inclined to disagree
D. Undecided
E. Inclined to agree
F. Agree
G. Strongly agree

102. On the same jobs as men, do Air Force women tend to do more, less, or about the same amount of work?

A. Much more
B. More
C. About the same
D. Less
E. Much less

103. How does your supervisor deal with your women co-workers?

A. Not applicable, there are no women in my unit

My supervisor is a woman and she:

B. Expects more from the women workers than the men
C. Treats men and women workers the same
D. Expects more from the men workers than the women

My supervisor is a man and he:

E. Expects more from the women workers than the men
F. Treats men and women workers the same
G. Expects more from the men workers than the women

108

Please rate your degree of satisfaction with personal growth based on the following description:

PERSONAL GROWTH: To be able to develop individual capacities; education/training; making full use of my abilities; the chance to further my potential.

104. To what degree are you satisfied with the PERSONAL GROWTH aspects of your life?

```
A . . . B . . . C . . . D . . . E . . . F . . . G
```

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HIGHLY                    NEUTRAL                  HIGHLY
DISSATISFIED                                       SATISFIED
```

Please rate your degree of satisfaction with personal standing based on the following description:

PERSONAL STANDING: To be treated with respect; prestige; dignity; reputation; status.

105. To what degree are you satisfied with the PERSONAL STANDING aspects of your life?

```
A . . . B . . . C . . . D . . . E . . . F . . . G
```

```
HIGHLY                    NEUTRAL                  HIGHLY
DISSATISFIED                                       SATISFIED
```

106. The prestige of the military today is good.

    A.   Strongly disagree
    B.   Disagree
    C.   Undecided
    D.   Agree
    E.   Strongly agree

107. The prestige of the military has declined over the past several years.

    A.   Strongly disagree
    B.   Disagree
    C.   Undecided
    D.   Agree
    E.   Strongly agree

108. Senior NCOs (E7-E9) are usually given jobs with less responsibility than they should have.

    A.   Strongly disagree
    B.   Disagree
    C.   Undecided
    D.   Agree
    E.   Strongly agree

Please rate your degree of satisfaction with health based on the following description:

HEALTH: Physical and mental well-being of self and dependents; having illnesses and ailments detected, diagnosed, treated and cured; quality and quantity of health care services provided.

109. To what degree are you satisfied with the HEALTH aspects of your life?

```
A . . . B . . . C . . . D . . . E . . . F . . . G
```

```
HIGHLY                    NEUTRAL                  HIGHLY
DISSATISFIED                                       SATISFIED
```

110. Generally, how satisfied are you with the medical care you received at military medical facilities during the past 12 months?

    A. Highly dissatisfied
    B. Dissatisfied
    C. Neither satisfied nor dissatisfied
    D. Satisfied
    E. Highly satisfied
    F. Not applicable, did not visit military medical facility in past 12 months

111. Generally, how satisfied are you with the medical care your children received in military medical facilities during the past 12 months?

    A. Highly dissatisfied
    B. Dissatisfied
    C. Neither satisfied nor dissatisfied
    D. Satisfied
    E. Highly satisfied
    F. Not applicable

112. Generally, the amount of time I have had to wait for treatment at military medical facilities during the past 12 months has been reasonable.

    A. Strongly disagree
    B. Disagree
    C. Undecided
    D. Agree
    E. Strongly agree
    F. Not applicable

113. Generally, medical personnel at military medical facilities are pleasant and concerned about patients.

    A. Strongly disagree
    B. Disagree
    C. Undecided
    D. Agree
    E. Strongly agree

114. Approximately how many times did you and/or your children visit a military medical facility during the past 12 months?

    A. None
    B. 1-4 times
    C. 5-8 times
    D. 9-12 times
    E. More than 12 times

115. Short tours and long tours count equally for overseas tour credit. Although certain overseas areas are more popular than others, given the same tour length, do you feel more overseas credit should be given to service in hard-to-man areas than service in more popular areas?

    A. Yes, 1 1/2 for 1
    B. Yes, 2 for 1
    C. Yes, 3 for 1
    D. No
    E. Undecided

116. Would you be more likely to volunteer for hard-to-man overseas duty if you could get extra credit for such duty?

    A. Yes
    B. No
    C. Undecided

110

117. Overseas volunteers may now specify only a country of choice. Would you be more likely to volunteer for overseas duty if you were assured of receiving the specific base of your choice?

A. Yes
B. No
C. Undecided

118. If you were authorized to apply for an overseas Base of Preference (BOP), would you apply?

A. Yes
B. No
C. Undecided

119. Would you accept a hard-to-man short tour if upon completion of the short tour you were guaranteed a Consecutive Overseas Tour (COT) in a long tour area of your choice?

A. Yes
B. No
C. Undecided

120. If you were informed of all the overseas assignment options open to your AFSC and grade, would you more likely volunteer for overseas duty?

A. Yes, definitely, I would more likely volunteer
B. Yes, probably, I would more likely volunteer
C. Yes, to a slight extent I would more likely volunteer
D. No, I would not volunteer
E. Undecided

121. Listed below are a number of alternatives for priority matching oversea returnees to available assignments. Which alternative do you prefer?

Alternative A
1st Consideration: Short Tour Returnees
2nd Consideration: Long Tour Returnees (Unaccompanied)
3rd Consideration: Long Tour Returnees (Accompanied)

Alternative B
1st Consideration: Short Tour Returnees and Long Tour Returnees (Unaccompanied) considered equally
2nd Consideration: Long Tour Returnees (Accompanied)

Alternative C
1st Consideration: Short Tour Returnees
2nd Consideration: Long Tour Returnees (Unaccompanied and Accompanied) considered equally

Alternative D
1st Consideration: Long Tour Returnees (Unaccompanied)
2nd Consideration: Remote Tour Returnees
3rd Consideration: Long Tour Returnees (Accompanied)

Alternative E
All oversea returnees receive equal consideration

FAMILY PATTERNS: Questions 122 to 134 are to be completed only by those who have a spouse. Questions 135 to 144 are to be completed only by those who have children.

122. My spouse is:

A. Military (USAF)
B. Military (Other)
C. Civilian

123. My spouse has a career or is pursuing a career in the sense that he/she has prepared himself/herself with special skills, has a commitment to that line of work and has some future plans for development of that career.

    A.   Strongly disagree
    B.   Disagree
    C.   Undecided
    D.   Agree
    E.   Strongly agree

124. What is your feeling toward your spouse having a job/career?

    A.   Prefer my spouse to work outside the home
    B.   All right as long as my spouse prefers to work and there are no seriously negative effects
    C.   No opinion
    D.   Would prefer he/she not work outside the home
    E.   Prefer my spouse not pursue a career

125. Would you say that your spouse's career is compatible with your military career?

    A.   Very compatible
    B.   Somewhat compatible
    C.   Slightly compatible
    D.   Not compatible

126. Have you ever mentioned your spouse's career to your resource manager either in discussion or on your assignment preference form?

    A.   Yes
    B.   No

127. Resource managers should consider civilian spouse's career when assigning the military member.

    A.   Strongly disagree
    B.   Disagree
    C.   Undecided
    D.   Agree
    E.   Strongly agree

128. How many times have you been separated for more than a month from your family as a result of your military duty?

    A.   0
    B.   1-2
    C.   3-4
    D.   5-6
    E.   In excess of 6 times

129. What is the primary reason your spouse works outside the home?

    A.   Head of household
    B.   Required income
    C.   Nice to have extra income
    D.   Independence
    E.   Self-esteem
    F.   Enjoyment in work itself
    G.   Personal desire to work
    H.   Not applicable, spouse does not work outside the home

112

130. If you are a two-career family, how many years have you maintained the two-career family lifestyle?

    A.   1 but less than 2 years
    B.   2 but less than 3 years
    C.   3 but less than 4 years
    D.   4 but less than 5 years
    E.   More than 5 years

131. How many hours per week does your spouse spend on the job?
    A.   Less than 40 hours
    B.   40 but less than 50 hours
    C.   50 but less than 60 hours
    D.   Over 60 hours

132. Independent of your spouse's feelings about an Air Force career, which would you prefer?

    A.   To stay in the Air Force until retirement
    B.   To leave the Air Force before retirement
    C.   Undecided

133. Have you and your spouse agreed upon his/her career plans?

    A.   Yes
    B.   No

134. Have you and your spouse agreed upon your career plans?

    A.   Yes
    B.   No

Questions 135 to 144 are to be completed only by those having children.

135. Are you a single member parent?

    A.   Yes
    B.   No

136. How many children do you have living at home?

    A.   1
    B.   2
    C.   3
    D.   4
    E.   More than 4

137. What is the age of your youngest child?

    A.   Preschool 0-5 years
    B.   Young school age 6-12 years
    C.   Teenager 13-18
    D.   Over 18

138. Would you use a professionally run childcare facility which was available for use 24 hours a day whenever you needed it?

    A.   Yes
    B.   No

139. To what degree would you say you need such a facility?

    A.   To a great extent
    B.   To some extent
    C.   Maybe
    D.   To a little extent
    E.   Not at all

Listed below are a number of factors which may represent your objections to overseas duty. Use Items 140-144 to rank your objections. First, select the reason which represents your most important objection and mark the appropriate letter on your answer sheet for Item 140. Then select the second most important reason and continue ranking until the least important reason is marked for Item 144.

    A.   Financial costs (costs of relocation, living overseas or loss of additional income from second job/spouse's employment).
    B.   Family considerations (school, medical care, separation from parents, etc).
    C.   Quality of life overseas (housing, support facilities, cultural differences).
    D.   Inability to have my spouse/family accompany me.
    E.   I'm satisfied where I am and don't want to move.
    F.   A reason other than those listed above.

140. ___First ranked reason (most important)

141. ___Second ranked reason

142. ___Third ranked reason

143. ___Fourth ranked reason

144. ___Fifth ranked reason (least important)

APPENDIX B

RESEARCH VARIABLES

TABLE XVIII

Research Variable Names and Definitions

Variable Name	Survey Question #	Definition
INTENT	11	Respondent stated career intent
JS1 to JS4	44 to 47	Job satisfaction components of the Hoppock index
V1 to V9	61 to 69	Valence values (attractiveness) of the nine second level outcomes: numbers correspond to outcome numbers given in Table II
IA1 to IA9	70 to 78	Air Force Instrumentality (correlation) Values: numbers correspond to outcome numbers given in Table II
IC1 to IC9	79 to 87	Civilian Instrumentality (correlation) Values: numbers correspond to outcome numbers given in Table II
AIV1 to AIV9	--	Air Force instrumentality valence products for nine different outcomes
CIV1 to CIV9	--	Civilian instrumentality valence products for nine different outcomes
VALAF	--	Valence of an Air Force career: AIV1 + AIV2 + ...AIV9
VALCIV	--	Valence of a civilian career: CIV1 + CIV2 + ...CIV9
VAL	--	Total valence value: VALAF - VALCIV

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TABLE XVIII (continued)

Variable Name	Survey Question #	Definition
IV1 to IV9	--	The difference between the Air Force IV product and the Civilian IV product: numbers correspond to outcome numbers given in Table II
EXT	--	External Influence: EXT = IA8 * V8
SERVICE	--	Total Projected Service Index: SERVICE = TAFMS + ADSC
HOPP	--	Hoppock Job Satisfaction Index: HOPP = JS1 + JS2 + JS3 + JS4

APPENDIX C

WEIGHTS USED IN THE STUDY

TABLE XIX

List of Weights Used in the Study

Grade	Total Strength	Sample Strength	Weighting Factors
Colonel	5136	435	11.806896
Lt. Colonel	12627	440	28.697727
Major	18141	398	45.580402
Captain	36900	398	97.713567
1 Lt	9571	322	29.723602
2 Lt	12938	348	37.17816
Subtotal	95313	2341	
CMSgt	4511	424	10.63915
SMSgt	8863	451	19.651884
MSgt	33083	454	72.870044
TSgt	51994	410	126.81463
SSgt	99921	371	269.32884
Sgt & SrAmn	101688	358	284.04469
A1C	100328	460	218.10434
Amn	27209	84	323.91666
Amn Basic	31615	12	2634.5833
Subtotal	459212	3024	
Total	554525	5365	.0096749

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APPENDIX D

DESCRIPTIVE STATISTICS: TOTAL SAMPLE

TABLE XX

Descriptive Statistics: Total Sample

Variable	Absolute Frequency	Relative Percentage	Adjusted Percentage
GRADE			
Colonel	50	.9	.9
Lt. Colonel	122	2.3	2.3
Major	176	3.3	3.3
Captain	357	6.7	6.7
1 Lt.	93	1.7	1.7
2 Lt.	125	2.3	2.3
CMSgt	44	.8	.8
SMSgt	86	1.6	1.6
MSgt	320	6.0	6.0
TSgt	503	9.4	9.4
SSgt	967	18.0	18.0
Sgt	467	8.7	8.7
SrAmn	517	9.6	9.6
A1C	971	18.1	18.1
Amn	263	4.9	4.9
AmnBasic	306	5.7	5.7
MARITAL STATUS (MARST)			
Married	3499	65.3	65.3
Never been married	1509	28.1	28.2
Divorced & not remarried	283	5.3	5.3
Legally separated	66	1.2	1.2
Widower/Widow	2	.0	.0
Missing	6	.1	---
EDUCATION (EDUC)			
Some high school	133	2.5	2.5
High school grad	1670	31.1	31.3
Trade/Tech school	215	4.0	4.0
1 yr. college	891	16.6	16.7
2 yr. college	836	15.6	15.7
3 yr. college	438	8.2	8.2
3 yr. college (no degree)	141	2.6	2.6
RN diploma program	11	.2	.2

TABLE XX (continued)

Variable	Absolute Frequency	Relative Percentage	Adjusted Percentage
College degree	332	6.2	6.2
Graduate work	236	4.4	4.4
Masters degree	306	5.7	5.7
Post graduate work	49	.9	.9
Doctorate degree	74	1.4	1.4
Missing	30	.6	---

SOURCE OF COMMISSION (COMSOURC)

Variable	Absolute Frequency	Relative Percentage	Adjusted Percentage
N/A, I am Enlisted	4421	82.4	82.5
OTS	283	5.3	5.3
OCS	11	.2	.2
ROTC	404	7.5	7.5
Aviation Cadet	39	.7	.7
Navigator Cadet	2	.0	.0
USAFA	71	1.3	1.3
USMA	6	.1	.1
USNA	3	.1	.1
Other	120	2.2	2.2
Missing	6	.1	---

TAFMS (YRS)

Variable	Absolute Frequency	Relative Percentage	Adjusted Percentage
Less than 1	321	6.0	6.0
1	877	16.3	16.5
2	444	8.3	8.4
3	525	9.8	9.9
4	261	4.9	4.9
5	272	5.1	5.1
6	255	4.8	4.8
7	223	4.2	4.2
8	184	3.4	3.5
9	144	2.7	2.7
10	194	3.6	3.7
11	169	3.2	3.2
12	171	3.2	3.2
13	151	2.8	2.8
14	127	2.4	2.4
15	117	2.2	2.2
16	120	2.2	2.3
17	138	2.6	2.6
18	160	3.0	3.0
19	123	2.3	2.3

TABLE XX (continued)

Variable	Absolute Frequency	Relative Percentage	Adjusted Percentage
20	73	1.4	1.4
21	44	.8	.8
22	39	.7	.7
23	43	.8	.8
24	40	.7	.8
25	45	.8	.8
26	15	.3	.3
27	35	.6	.7
Missing	55	1.0	---
AFSC – Category 1			
10XX	82	7.1	7.2
11XX	110	4.1	4.2
12XX	16	1.5	1.6
13XX	33	3.6	3.6
14XX	41	4.5	4.5
15XX	51	5.2	5.3
22XX	25	2.6	2.7
AFSC – Category 2			
26XX	16	1.7	1.8
28XX	34	3.7	3.7
AFSC – Category 3			
93XX	15	1.6	1.6
94XX	3	.3	.3
95XX	4	.4	.4
AFSC – Category 6			
202XX	0	0	0
208XX	0	0	0
272XX	52	1.2	1.2
32XXX	295	6.7	6.7
42XXX	399	9.0	9.0
43XXX	392	8.8	9.0
46XXX	159	3.6	3.7

TABLE XX (continued)

Variable	Absolute Frequency	Relative Percentage	Adjusted Percentage
SEX			
Male	4727	88.1	88.3
Female	626	11.7	11.7
Missing	12	.2	---
CAREER INTENT (INTENT)			
Definitely will stay	1673	31.2	31.4
Most likely will stay	984	18.3	18.5
Undecided	1189	22.2	22.3
Most likely won't stay	729	13.6	13.7
Definitely won't stay	757	14.1	14.2
Missing	37		
ADSC			
Less than 1 yr	1552	28.9	29.0
Less than 2 yr	1110	20.7	20.7
Less than 3 yr	1479	27.6	27.6
Greater than 3 yr	1213	22.6	22.6
Missing	11	.2	---
RATING			
Pilot	257	4.8	4.8
Navigator	100	1.9	1.9
Flt. Surgeon	9	.2	.2
Other Aero Rating	110	2.1	2.1
Nonrated	4856	90.5	91.1
Missing	32	.6	---

APPENDIX E

DESCRIPTIVE STATISTICS BY CATEGORY

TABLE XXI

Descriptive Statistics: Category 1
(Pilots & Navigators)

Variable	Absolute Frequency	Relative Percentage
GRADE		
Major	1	1.0
Captain	92	76.0
1 Lt.	24	19.0
2 Lt.	4	4.0
EDUCATION (EDUC)		
College degree	70	57.0
Graduate work	34	28.0
Masters degree	15	12.0
Post graduate work	3	2.0
MARITAL STATUS (MARST)		
Married	100	82.0
Never married	20	17.0
Divorced	1	1.0
COMMISSIONING SOURCE		
OTS	23	19.0
ROTC	71	58.0
USAFA	26	22.0
USMA	1	1.0
SEX		
Male	120	99.0
Female	1	1.0
RATING		
Pilot	87	72.0
Navigator	34	28.0

TABLE XXI (continued)

Variable*	Mean	Variance
INTENT	3.20	1.13
VAL	-67.79	3309.72
EXT	4.03	124.61
HOPP	19.48	15.41
V1	3.24	2.73
V2	4.08	1.34
V3	4.20	1.38
V4	-.38	6.16
V5	2.39	5.10
V6	3.62	2.79
V7	-3.72	2.31
V8	3.07	3.74
V9	-.90	7.98
IA1	-3.02	3.88
IA2	-1.35	5.97
IA3	1.38	5.05
IA4	2.77	4.62
IA5	.55	7.46
IA6	-1.04	6.30
IA7	1.98	5.82
IA8	1.03	8.29
IA9	3.04	3.78
IC1	2.50	3.35
IC2	1.88	3.34
IC3	1.84	3.41
IC4	.34	4.67
IC5	-.68	5.63
IC6	1.80	3.01
IC7	-2.95	3.77
IC8	2.00	4.98
IC9	-1.26	6.89

Unweighted Sample Size   203
Weighted Sample Size   122

*See Appendix B for variable definitions

TABLE XXII

Descriptive Statistics: Category 4
(All Officers)

Variable	Absolute Frequency	Relative Percentage
GRADE		
Major	8	1.0
Captain	222	53.0
1 Lt.	83	20.0
2 Lt.	101	24.0
EDUCATION		
Less than 1 yr college	1	0.0
2 to less than 3 yrs college	2	1.0
RN	7	2.0
College degree	177	42.0
Graduate work	117	28.0
Masters degree	61	15.0
Post-graduate work	11	3.0
Doctoral degree	40	10.0
MARITAL STATUS		
Married	288	69.0
Never married	114	27.0
Divorced	13	3.0
Separated	3	1.0
COMMISSIONING SOURCE		
OTS	94	22.0
OCS	2	0.0
ROTC	206	50.0
Aviation Cadet	1	0.0
USAFA	45	11.0
USMA	4	1.0
Other	64	15.0
SEX		
Male	347	83.0
Female	69	17.0

TABLE XXII (continued)

Variable	Absolute Frequency	Relative Percentage
RATING		
Pilot	94	23.0
Navigator	41	10.0
Flight Surgeon	3	1.0
Other Aero	10	2.0
Nonrated	268	64.0

Variable*	Mean	Variance
INTENT	3.28	1.32
VAL	-53.55	3769.85
EXT	4.03	124.61
HOPP	19.14	18.02
V1	3.39	2.96
V2	3.85	2.52
V3	4.07	2.45
V4	-.11	7.19
V5	2.38	5.67
V6	3.61	3.22
V7	-3.43	4.29
V8	2.95	4.90
V9	-.09	9.06
IA1	-1.96	6.11
IA2	-.98	6.61
IA3	1.41	4.82
IA4	2.72	4.90
IA5	1.26	7.30
IA6	-.35	7.41
IA7	1.66	7.13
IA8	1.51	7.70
IA9	2.91	4.73
IC1	2.55	3.44
IC2	1.91	3.76
IC3	2.03	3.61
IC4	.31	5.77
IC5	-.91	6.04
IC6	1.77	3.96

TABLE XXII (continued)

Variable*	Mean	Variance
IC7	-3.03	4.27
IC8	2.04	5.22
IC9	-1.13	7.56

Unweighted Sample Size 852
Weighted Sample Size 412

*See Appendix B for variable definitions

TABLE XXIII

Descriptive Statistics: Category 5
(All Enlisted)

Variable	Absolute Frequency	Relative Percentage
GRADE		
MSgt	1	0.0
TSgt	5	0.0
SSgt	464	16.0
Sgt	440	15.0
SrAmn	514	18.0
A1C	966	34.0
Amn	260	9.0
Amn Basic	204	7.0
EDUCATION		
Some high school	101	4.0
High school grad	1159	41.0
Trade/Tech school	177	6.0
Less than 1 yr college	624	22.0
Less than 2 yr college	479	17.0
Less than 3 yr college	204	7.0
More than 3 yr college	57	2.0
College degree	24	1.0
Graduate work	13	0.0
Masters degree	6	0.0
MARITAL STATUS		
Married	1351	47.0
Never married	1318	46.0
Divorced	146	5.0
Separated	37	1.0
SEX		
Male	2328	82.0
Female	524	18.0
RATING		
Pilot	7	0.0
Other Aero	66	2.0
Nonrated	2767	97.0

TABLE XXIII (continued)

Variable*	Mean	Variance
INTENT	2.57	1.38
VAL	-56.87	5239.45
EXT	2.91	128.23
HOPP	17.46	23.11
V1	3.64	4.91
V2	3.40	5.13
V3	3.41	4.88
V4	.10	8.83
V5	1.39	7.22
V6	2.61	5.46
V7	-3.20	5.92
V8	2.01	6.93
V9	1.12	7.11
IA1	-2.39	6.85
IA2	-1.97	9.38
IA3	.47	7.48
IA4	2.09	7.95
IA5	1.12	7.45
IA6	-.28	8.59
IA7	.90	10.75
IA8	.72	8.96
IA9	1.13	8.42
IC1	2.63	4.65
IC2	2.77	4.80
IC3	2.27	4.20
IC4	.21	7.56
IC5	-.48	6.27
IC6	2.09	5.07
IC7	-2.94	6.03
IC8	2.15	6.90
IC9	.17	8.32

Unweighted Sample Size   1069
Weighted Sample Size   2860

*See Appendix B for variable definitions

TABLE XXIV

Descriptive Statistics: Category 6
(Selected Enlisted)

Variable	Absolute Frequency	Relative Percentage
GRADE		
TSgt	1	1.0
SSgt	154	67.0
Sgt	47	20.0
SrAmn	3	1.0
*Amn Basic	25	11.0
*Unweighted Frequency = 1		
EDUCATION		
High school grad	108	47.0
Trade/Tech school	11	5.0
Less than 1 yr college	37	16.0
Less than 2 yr college	53	23.0
Less than 3 yr college	18	8.0
Graduate work	3	1.0
MARITAL STATUS		
Married	157	68.0
Never married	29	13.0
Divorced	39	17.0
Legally separated	5	2.0
COMMISSIONING SOURCE		
N/A		
SEX		
Male	219	95.0
Female	11	5.0
RATING		
Pilot	3	1.0
Other Aero	3	1.0
Nonrated	222	98.0

TABLE XXIV (continued)

Variable*	Mean	Variance
INTENT	3.22	2.07
VAL	-62.77	3888.09
EXT	4.061	108.01
HOPP	18.02	18.24
V1	3.82	3.75
V2	3.96	3.40
V3	3.71	2.94
V4	.54	7.74
V5	1.95	8.23
V6	2.65	5.91
V7	-3.59	3.70
V8	2.40	6.13
V9	.81	7.01
IA1	-2.37	6.96
IA2	-2.32	9.08
IA3	1.18	6.63
IA4	2.34	6.31
IA5	.91	8.02
IA6	-.21	8.04
IA7	.80	10.72
IA8	.48	7.25
IA9	1.34	8.62
IC1	2.69	3.38
IC2	3.12	2.06
IC3	1.81	3.40
IC4	-.04	6.71
IC5	-.90	5.22
IC6	2.10	3.54
IC7	-3.24	4.19
IC8	2.06	4.83
IC9	-.20	8.34

Unweighted Sample Size   81
Weighted Sample Size   230

*See Appendix B for variable definitions

APPENDIX F

BIVARIATE CORRELATIONS: INTENT WITH
AIR FORCE INSTRUMENTALITIES

TABLE XXV

Bivariate Correlations: INTENT with
Air Force Instrumentalities

| Variable | Category | | | |
	1	4	5	6
IA1	.15	.11**	.27*	.53*
IA2	.30*	.27*	.19*	.24*
IA3	.35*	.44*	.35*	.38*
IA4	-.10	.02	.10*	.18*
IA5	.02	.06	.22*	.30*
IA6	.41*	.39*	.30*	.48*
IA7	-.10	-.01	-.13*	-.09
IA8	.40*	.41*	.49*	.31*
IA9	.01	.12**	.22*	.42*

 * p ≤ .01
** p ≤ .05

APPENDIX G

AIR FORCE INSTRUMENTALITY INTERCORRELATIONS

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TABLE XXVI

Air Force Instrumentality Intercorrelations
by Category

Category 1

Variable	IA1	IA2	IA3	IA4	IA5	IA6	IA7	IA8
IA2	.17							
IA3	.17	.42						
IA4	.01	.06	.24					
IA5	.16	.12	.17	.13				
IA6	.36	.51	.49	-.01	.16			
IA7	-.08	.03	.25	.28	-.05	-.04		
IA8	.15	.21	.38	.03	.14	.28	.03	
IA9	-.08	.01	.24	.31	-.04	.00	.17	.19

Category 4

Variable	IA1	IA2	IA3	IA4	IA5	IA6	IA7	IA8
IA2	.28							
IA3	.20	.39						
IA4	.04	.09	.22					
IA5	.20	.11	.15	.11				
IA6	.28	.43	.50	.08	.19			
IA7	-.02	.00	.12	.22	-.03	-.06		
IA8	.17	.23	.37	.12	.12	.28	-.01	
IA9	.00	.08	.22	.31	.04	.02	.29	.19

Category 5

Variable	IA1	IA2	IA3	IA4	IA5	IA6	IA7	IA8
IA2	.35							
IA3	.28	.25						
IA4	.05	-.05	.18					
IA5	.19	.12	.18	.27				
IA6	.33	.34	.43	.08	.20			
IA7	-.11	-.12	-.02	.30	.13	-.13		
IA8	.19	.23	.29	.13	.17	.28	.05	
IA9	.16	.17	.23	.21	.24	.28	.06	.30

Category 6

Variable	IA1	IA2	IA3	IA4	IA5	IA6	IA7	IA8
IA2	.41							
IA3	.27	.32						
IA4	.17	.07	.19					
IA5	.18	.14	.09	.32				

TABLE XXVI (continued)

Variable	IA1	IA2	IA3	IA4	IA5	IA6	IA7	IA8
IA6	.56	.53	.40	.27	.26			
IA7	.00	-.18	-.09	.35	.05	-.03		
IA8	.25	.15	.33	.21	.17	.25	.06	
IA9	.38	-.01	.31	.30	.12	.43	.19	.38

Note: Outcomes associated with each instrumentality
        variable can be found in Chapter II, p. 27.

APPENDIX H

STATISTICAL EVALUATIONS OF HYPOTHESIS 4

TABLE XXVII

Evaluation of Hypothesis 4: Correlation/Regression Results

I   <u>Vroom Model</u>   Method: r t z transformation
(Snedecor and Cochran, 1979)

H_o: $r_4 = r_5$

H_a: $r_4 \neq r_5$

Category	n	r	z	$1/(n-3)$
4	401	.41	.436	.0025
5	2709	.36	.377	.0004

Difference = .059   Sum = .0029

$\sigma_{z_4 - z_5} = \sqrt{.0029} = .054$ $.059 / .054 = 1.09$ P = .22

∴ Don't reject H_o

II   <u>Fishbein/Graen</u> <u>&</u> <u>Mobley</u> <u>Models</u>   Method: F test
(McNichols, 1979)

	Fishbein/Graen	Mobley
F_o (calculated)	36.7	27.2
F (table)*	2.60	2.37
Decision (H_o)**	Reject	Reject

----

 * based on a significance level of .05
** H_o: $R_4 = R_5$
Note: Subscripts 4 and 5 refer to Categories 4 and 5

   r = bivariate correlation coefficient
   R = multiple correlation coefficient

TABLE XXVIII

Evaluation of Hypothesis 4:   Discriminant Results

Method: χ^2 test

	Vroom	Fishbein/Graen	Mobley
χ^2 (calculated)	2.81	2.45	9.01
χ^2 (table)*	3.84	3.84	3.84
Decision (H_o)**	Don't Reject	Don't Reject	Reject

 * based on a significance level of .05 and 1 degree of
   freedom
** H_o: the overall classification results are the same for
        Category 4 (all officer) and Category 5 (all
        enlisted) personnel

APPENDIX I

TEST OF SIGNIFICANT DIFFERENCES
BETWEEN TWO CATEGORIES

TABLE XXIX

Test of Significant Differences Between Two Categories:
Correlation Coefficients for Specific Outcomes

I   Outcome: High Salary   Method: r to z
transformation**

H_o: $r_4 = r_5$

Category	n	r*	z	1/(n-3)
4	417	.11	.11	.0024
5	2835	.27	.277	.0004

Difference = .167   Sum = .0028

$\sigma_{z_4 - z_5}$ $= \sqrt{.0028} = .053$ .167 / .053 = 3.16   P = .0028

∴ Reject H_o

II   Outcome: 20 Year Retirement   Method: r to z
transformation

H_o: $r_4 = r_5$

Category	n	r*	z	1/(n-3)
4	415	.06	.06	.0024
5	2837	.22	.224	.0004

Difference = .164   Sum = .0028

$\sigma_{z_4 - z_5}$ $= \sqrt{.0028} = .053$ .164 / .053 = 3.09   P = .0033

∴ Reject H_o

III Outcome: Extended Separation   Method: r to z
transformation

H_o: $r_4 = r_5$

Category	n	r*	z	1/(n-3)
4	416	.00	.00	.0024
5	2839	-.14	-.141	.0004

Difference = .141   Sum = .0028

TABLE XXIX (continued)

III Outcome: <u>Extended Separation</u> (continued)

$$\sigma_{z_4 - z_5} = \sqrt{.0028} = .053 \qquad .141 \: / \: .053 = 2.66 \qquad P = .0113$$

∴ Reject H_o

----

 * r = bivariate correlation between career intent and the
        Air Force instrumentality (with associated outcome)
        for the given personnel category
** Snedecor and Cochran, 1967

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